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DEPARTMENT OF THE ARMY FIELD MANUAL

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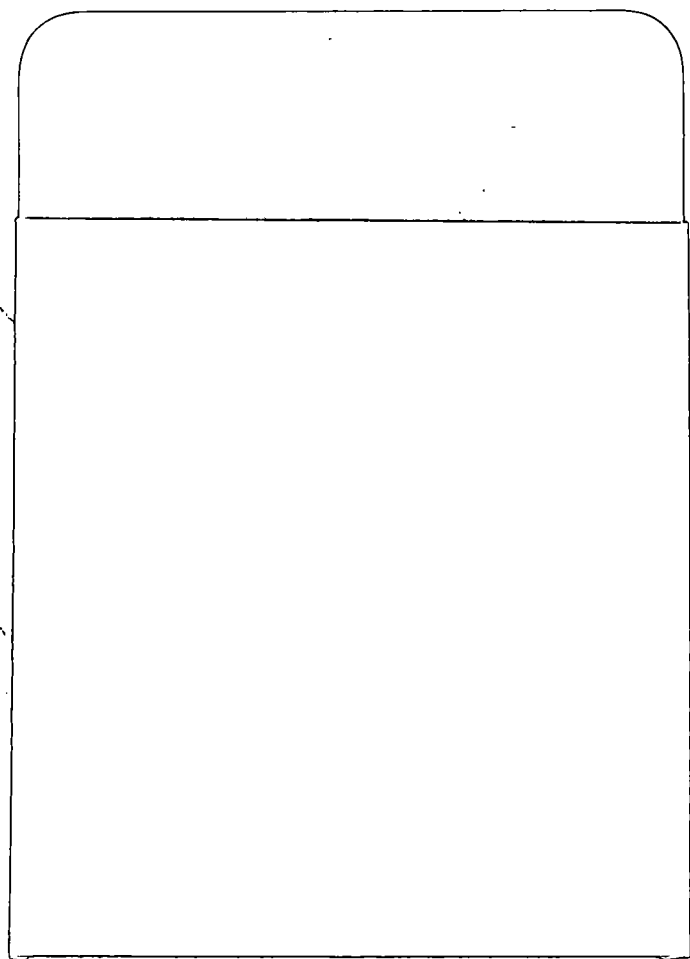
FIELD SERVICE REGULATIONS

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DEPARTMENT OF THE ARMY • SEPTEMBER 1949



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*This manual supersedes FM 100-10, 15 November 43, including C 1, 19 December 1943;
C 2, 22 May 1944; and C 3, 28 July 1944*

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BY ORDER OF THE SECRETARY OF THE ARMY:

OFFICIAL: J. LAWTON COLLINS
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The Adjutant General

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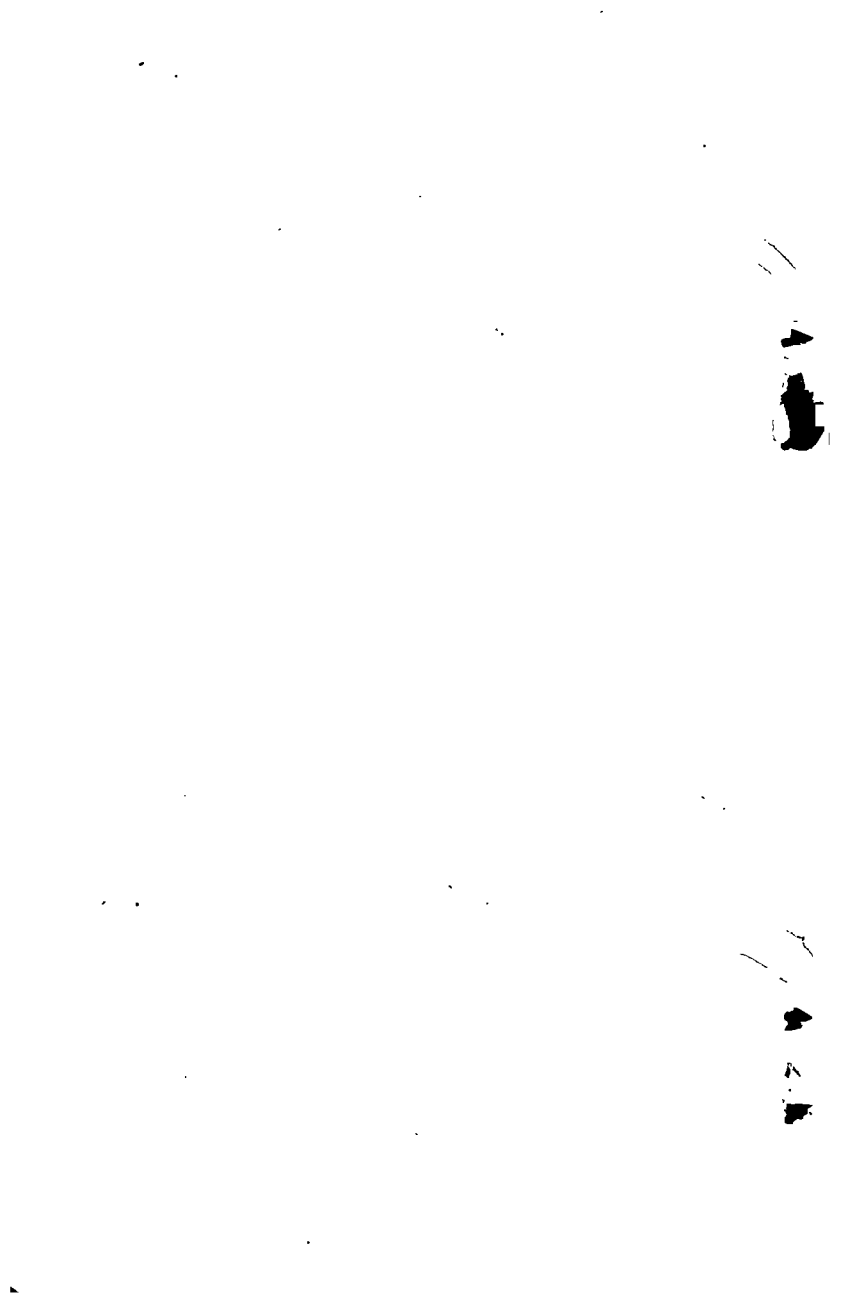
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FOREWORD

All military activity below the strategical level is divided into two interlocking fields: tactics (or combat operations) and administrative (or noncombat operations). These fields are separated in field service regulations for the convenience of discussion only.

Field service regulations are field manuals which give the basic principles and regulations governing the operations of large units, territorial commands, and combined arms and services. *Field Service Regulations—Administration contains the fundamentals of Army administration in the theater of operations.* The basic factors influencing administrative decisions are set forth with only minimum reference to the details of operation.

The information contained in this manual reflects current policies *at the time of publication*. Some policies, however, are presently under study and will be subject to modification at a later date. These modifications will be reflected in changes to the manual to be published subsequently. In view of changes in policies which may be made by current or later studies, users of this manual are invited to submit recommended corrections direct to the Commandant, Command and General Staff College, Ft. Leavenworth, Kansas, for inclusion in changes to be published periodically as required.



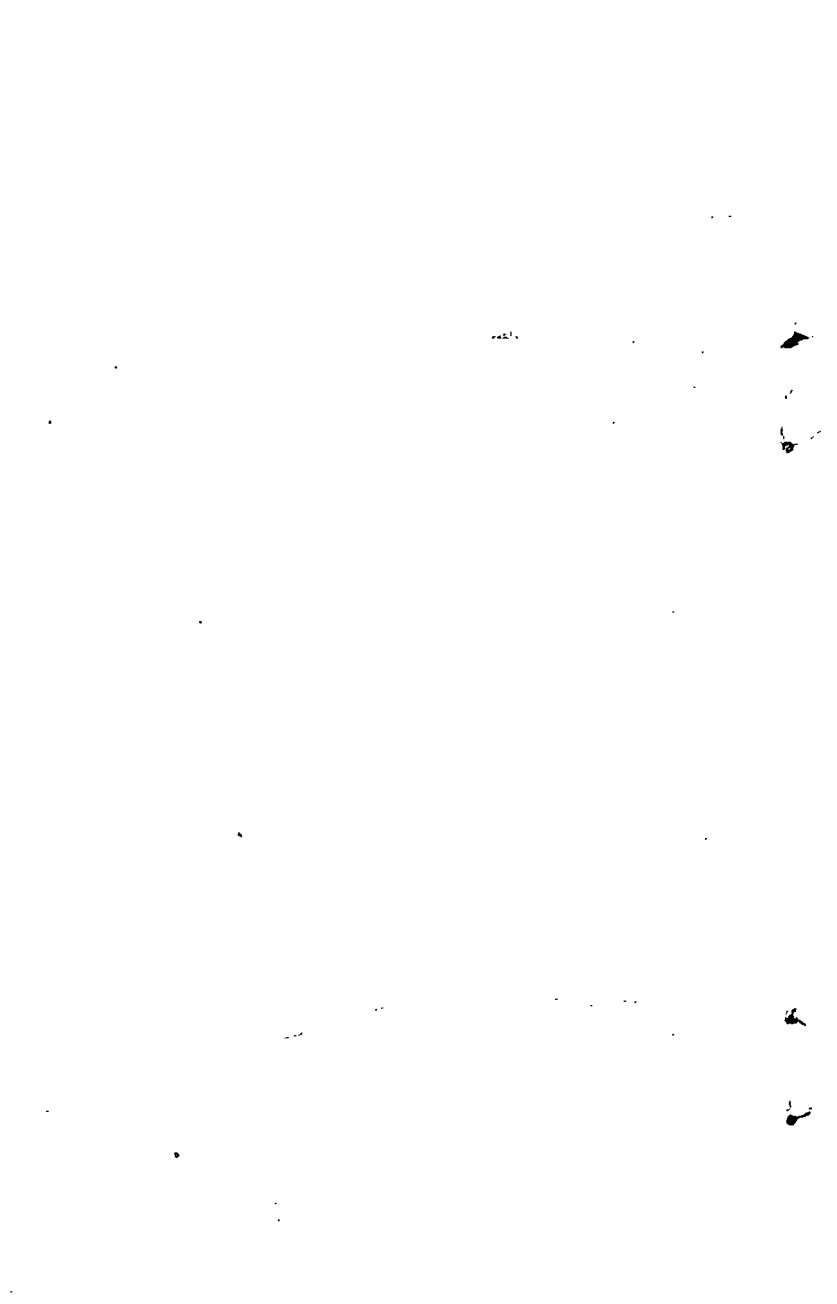
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RESTRICTED

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PART ONE

ADMINISTRATIVE ORGANIZATION

CHAPTER 1

TERRITORIAL

1. ADMINISTRATIVE PLANS AND ORGANIZATION.

a. Plans. A study of large unit operations in the past shows that many failures initially attributed to faulty strategical or tactical plans were, in reality, caused by administrative deficiencies. Administrative plans normally require considerable time for execution. Therefore, the strategical and tactical planners must keep the administrative planners continually advised of possible eventualities. Frequently, the administrative planner must formulate plans and initiate action based on possible strategic and tactical plans rather than on definite decisions. The administrative implications of every adopted strategical or tactical plan must be examined to ascertain if the plan can be supported administratively. A comprehensive and timely administrative plan to render support to the adopted plan must be evolved and executed forcefully. Alternate plans must be prepared to support alternative tactical plans, and to

cope with changes and unforeseen developments in the situation. Within the limitation of available means, administrative operations are planned and executed in a manner which will allow maximum flexibility in arriving at subsequent strategical and tactical decisions.

b. Organization. Part one of this manual outlines the normal Army territorial, command, staff, and service organization upon which is based the discussion of administrative operations contained in part two. The organization given in part one is to be regarded as a basis for planning. In any theater, departures from this organization may be authorized by proper authority when required by the situation. Such departures often imply corresponding changes in the procedures set forth in part two.

2. THEATER OF WAR (fig. 1). The theater of war comprises all land, sea, and air masses which are, or may become, involved directly in the conduct of war. It is subdivided in accordance with the nature of the air, ground, and naval operations planned. Major territorial subdivisions are the zone of interior, theaters of operations, defense commands, and base commands. Air subdivisions conform, in general, to territorial subdivisions but may differ according to the nature of aerial warfare.

3. ZONE OF INTERIOR. The zone of interior ordinarily comprises all National territory exclusive of theaters of operations, but may, under certain circumstances, include foreign territory, either allied, neutral, or hostile.

4. THEATER OF OPERATIONS (figs. 1 through 7). A theater of operations comprises that portion of the theater of war necessary for tactical operations pursuant to an assigned mission, and for administration incident thereto. Theater limits are designated to provide room for maneuver, for security, and for the operation of lines of communication.

a. Organization. A theater of operations is organized administratively to meet the needs of the forces assigned to the theater and to enable them to carry out their missions in the general plan of operations. Initially, the organization may be prescribed in general plans for the theater. Subsequent development of the administrative organization is a responsibility of the theater commander and is based on experience gained in the theater.

b. Decentralization. For decentralization of theater army operations, a theater of operations normally is divided into a combat zone containing those land, sea, and air masses required for ground combat operations and the immediate administration of the forces operating therein, and a communications zone containing those land, sea, and air masses required for theater army administration in the theater as a whole. Where a theater of operations contains only limited, and possibly discontinuous, land masses, as in an ocean area or an isolated continental area, such territorial subdivision may not be feasible. Initially, in a campaign, a theater of operations may include only a combat zone, while installations and facilities of the zone of interior are being used for the direct support of the theater army forces.

c. **Ocean area (fig. 1).** An ocean area (sometimes called an oceanic theater) is a type of theater of operations, or a portion of a very large theater of operations, whose organization is influenced by the limitations imposed by large bodies of water. The type of warfare resulting from the geographical conditions found in an ocean area will not permit a complete segregation of combat and administrative operations into entirely separate and mutually exclusive areas, as in a continental theater of operations. Combat operations may be taking place in that part of an ocean area which, in a continuous land mass, would be assigned normally to a communications zone. Conversely, communications zone type administrative operations may have to be located in territory which corresponds to the combat zone in a theater on a large land mass. Therefore, the theater commander must organize his forces and the territory that they occupy to permit the unity of command necessary for both combat and administrative operations. The administrative establishments serving the theater as a whole may be dispersed throughout the theater as a whole.

d. Figures 2 through 6 show schematically some, but not necessarily all, of the variations in territorial organization to be found in a theater of operations.

- (1) A schematic representation of a theater of operations on a large land mass is shown in figure 2. The purpose of this diagram is to show the general territorial relationships, from front to rear, of the combat zone and the communications zone, and their ter-

ritorial elements, if used. The intermediate section of the communications zone is used only when the area occupied by the communications zone has become sufficiently great to hamper direction of operations by the base (fixed) and advance (movable) sections. Also, the number of base and advance sections established will depend upon the volume of support operations, and the territorial extent of the communications zone. Great volume of business and excessive extent of area will create the necessity for decentralizing control of operations to additional section organizations, each having specific territorial responsibilities.

- (2) The actual shape of a theater of operations, and the assignments of territory to combat zone and communications zone will be determined by the total area involved, and will be affected by terrain features, such as coast line, mountains, large rivers, and swamps. In some instances, part of the total land area available will be assigned to an allied force, thus presenting an administrative limitation. Figures 3-6, inclusive, show some of the general shapes which might be assumed by a theater of operations, or that portion of a theater actually occupied by friendly troops.

5. AREA COMMAND (fig. 1). Area commands are special types of organizations, with specific missions,

whose limits of authority and responsibility are defined in terms of the territory assigned to them. The territory assigned to an area command may be

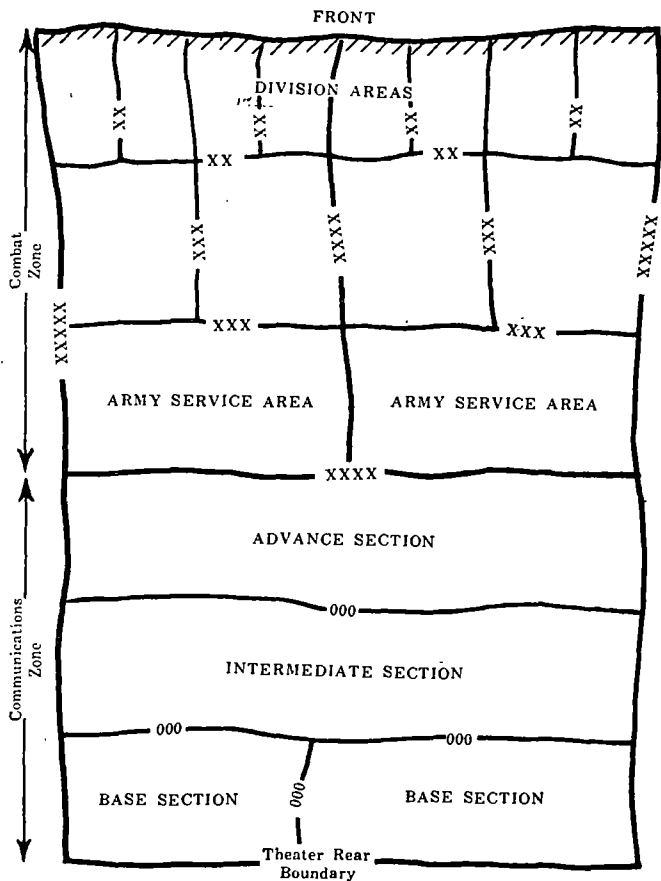


Figure 2. Theater of operations (schematic).

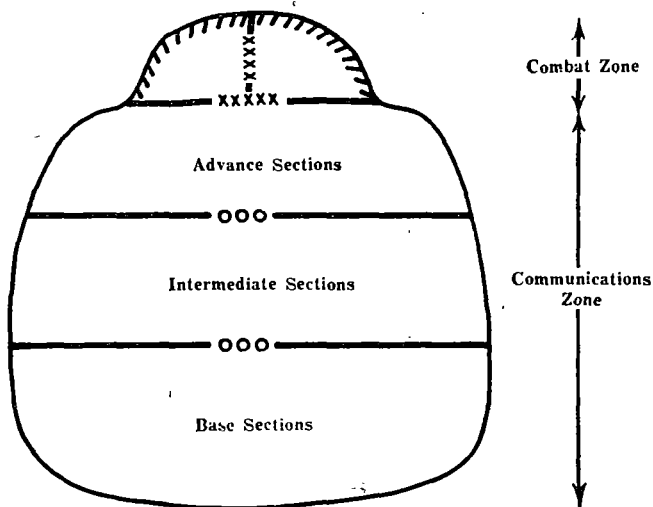


Figure 3. A theater of operations which might result from operations directly from the zone of interior into contiguous territory. In this case, the entire United States might be the communications zone.

part of the zone of interior, part of a theater of operations, or it may be a separate area, such as Alaska or the Antilles, not included in either. The primary mission of an area command, assigned by the Joint Chiefs of Staff or by the theater commander, as appropriate, is other than combat, except for local defense. Typical area commands are base commands, defense commands, metropolitan areas, island commands, or a designated area command in an ocean area composed of several island commands

grouped together for centralized control and administration.

6. COMBAT ZONE (figs. 2 through 9). The combat zone comprises that part of the theater required by the armies for the conduct of operations. Its depth is dependent upon the size of the forces assigned, the nature of the operations contemplated, the character of the lines of communications, important terrain features, and enemy capabilities. The combat zone normally is divided into army areas which in turn are subdivided into corps and division areas. Each of these areas is the zone of operations of the unit to

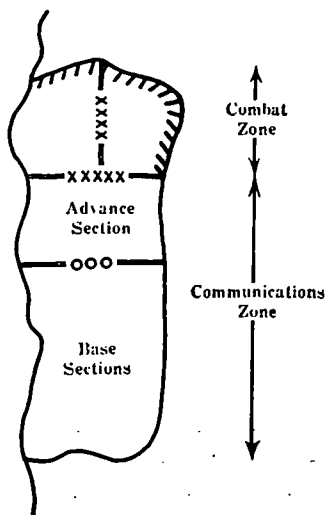


Figure 4. A theater of operations where the communications zone consists primarily of a supply line, as in North Africa during World War II.

which it pertains and is controlled by the commander of that unit. Two or more army areas may be grouped into an army group area. However, the

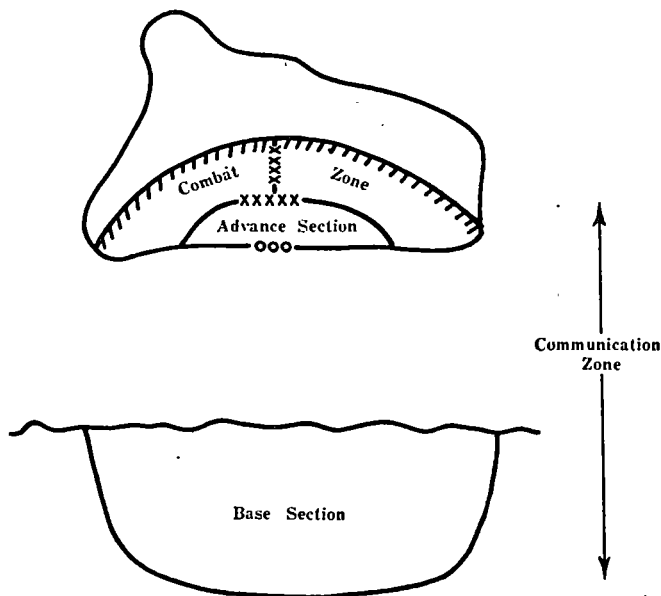


Figure 5. A theater of operations involving a large island, with the communications zone interrupted by a large expanse of water. An ocean area might consist of multiples of this pattern.

army group commander normally has no territorial responsibility except that which he may assume or retain within the combat zone for the small area in which his headquarters may be located.

a. The army service area is the territory between the corps rear boundary and the combat zone rear

boundary over which army exercises control. However, army administrative establishments and army service troops may be located anywhere throughout the combat zone including territory under the control of subordinate commanders.

b. In an advance, rear boundaries are moved forward as rapidly as practicable in order to relieve combat commanders of responsibility for the administration of territory not required for their combat or administrative duties.

7. COMMUNICATIONS ZONE. The communications zone includes all the territory of the theater of operations between the rear boundary of the theater (fixed by the Joint Chiefs of Staff) and the rear boundary of the combat zone (designated by the theater army commander). Laterally, it usually is coextensive with the theater boundaries. The communications zone provides area for the proper operation and defense of the supply, evacuation, transportation, service, and other administrative agencies required for rendering support to the combat zone. It may include areas necessary for the operation or support of air force units based outside the combat zone. It is a link in the chain of supply and evacuation between the combat zone and the zone of interior.

a. The primary purpose in designating a communications zone is to relieve combat zone commanders of responsibility for logistical and territorial operations not immediately affected by the conduct of combat operations. To facilitate accomplishment of this purpose, the forward boundary of

the communications zone should be advanced as far forward as the conduct of operations will permit. The organization of the communications zone is adapted to the plan of operations, and is based on actual conditions in the theater of operations. The communications zone, therefore, is not organized in the same manner in every theater of operations; each case is a different problem. The simplest case might occur at the beginning of operations in a theater contiguous to home territory, where supplies received from depots in the zone of interior are forwarded, without transferring loads from one means of transportation to another, direct to army or air force supply points in the combat zone. The communications zone will be organized to operate as a single unit, without division into sections, if practicable. However, close support of the combat forces, the volume of support operations, territorial extent of the communications zone, enemy activity, and other considerations may require decentralization. In that event, the communications zone will be divided into sections charged with logistical operations in their assigned areas, and territorial control thereof. In the creation of a new theater, the situation and plans for future development will indicate whether to establish in the theater from the start a single, unsubdivided communications zone, to establish a communications zone first and later to subdivide it; or, at first, to establish sections successively, and later to bring in a communications zone headquarters to control them.

b. In a normal airborne or amphibious assault which develops into an extensive oversea operation,

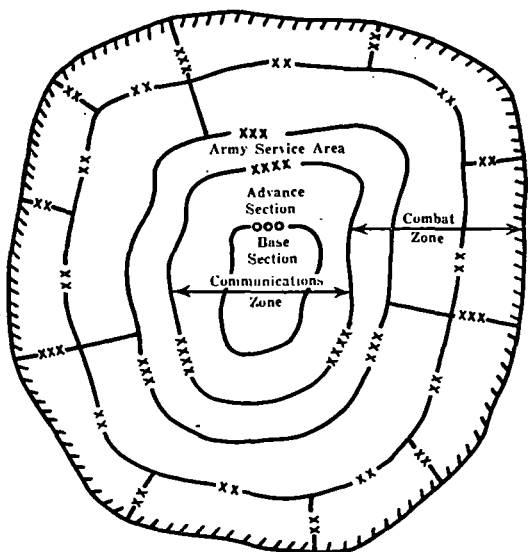


Figure 6. Airhead type theater of operations. The air force territorial organization may differ from this organization, but, in any case, would be superimposed on it.

all administrative support units and installations initially are under the command of the appropriate combat commanders. As operations progress, and a combat zone rear boundary is designated, a communications zone advance section is established in rear thereof. In some instances, units and installations intended for the communications zone may be placed under the control of combat commanders prior to the establishment of a combat zone rear boundary, and pass to the control of the section of the communications zone, in place, when it is estab-

lished. As the offensive progresses, the advance section moves forward to provide continuous direct support to the advancing combat elements. The area controlled by an advance section will be the minimum necessary to accomplish its mission. Command and operation of the area relinquished by the advance section are assumed by a base section. Upon the establishment of more than one section, a communications zone headquarters may be activated to assume control of the entire communications zone.

c. In some situations, the communications zone may become so extended in depth and width as to make it desirable to divide it into two or more base sections and advance sections, in order to secure more effective operation. Boundaries between sections should be selected with predominant attention to operating missions rather than to geographical or political structures. The structure of the transportation system is an important consideration in the selection of boundaries. The direction of the boundaries is incidental to the mission for which the subdivision is formed. In a very deep communications zone, it may be desirable to echelon sections from rear to front, and to designate them as base, intermediate, and advance sections. In any event, only so much subdivision of the area is made as is necessary to carry out the functions of the communications zone.

d. Districts, bases, or areas, as defined in subsequent paragraphs, may be established in the communications zone for purposes of local administration, territorial control, or such other purposes as

may be required. Their responsibilities and territorial limitations will be prescribed in each case. They may be assigned to theater, communications zone, or a section headquarters, according to their nature and purpose.

e. In situations where the theater of operations is not subdivided territorially into a combat zone and a communications zone, but the extent of operations requires an administrative organization separate from the combat organization, a services of supply organization, having responsibility for service but not for territory is substituted for the communications zone organization.

8. ARMY SERVICE COMMAND. An army service command is an organization which is formed, when circumstances make it desirable, to pool all internal army service operations and all external direct service support to an army under one single commander, who reports to the field army commander. The army service command controls both the territory normally assigned to army service troops and that normally assigned to advanced communications zone troops. The territorial transition in an amphibious operation utilizing an army service command might occur in the following phases:

a. As soon as practicable after the establishment of a beachhead, an army service command (ASCOM) under the army commander, takes over all administrative support functions and territorial control, other than those normally the responsibility of the corps and subordinate commanders, and develops the beachhead area (fig. 7).

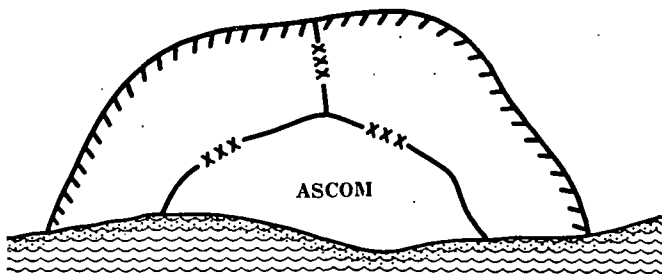


Figure 7. Army service command.

b. As soon as sufficient territory has been gained so that it becomes desirable to separate army service operations from base operations and base development, the army service command is dissolved, and army service troops, under the army chiefs of technical services, take over operations in the army service area, immediately behind the corps rear boundary. The base troops, under a commander who reports directly to the army commander, take over operations in the territory between the army service area and the army rear boundary (the beach) (fig. 8).

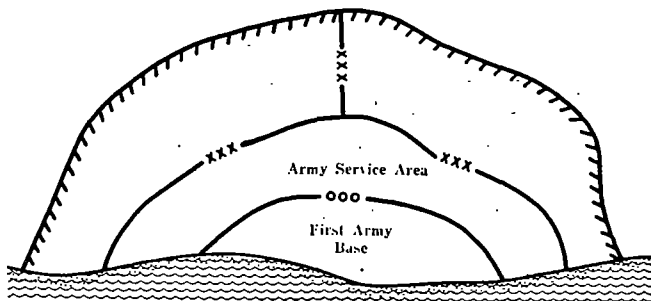


Figure 8. Army service area and base.

c. The final step is the transfer, in place, of the base operations, either to the communications zone or to a designated communications zone section. This is accomplished by moving the army rear boundary forward to coincide with the current rear boundary of the army service area (fig. 9).

d. It is emphasized that figure 9 represents only one method of accomplishing transition of rear areas from army control to communications zone control.

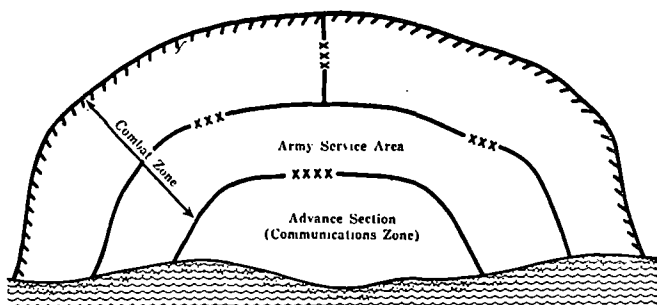


Figure 9. Advance section.

9. AMPHIBIOUS OPERATIONS. Variations of the preceding procedure are possible without the employment of an army service command.

a. Advance section troops and facilities may be placed temporarily under the control of the field army commander during the early phases of an operation. Advance section troops and operations revert to the control of the communications zone after the army has advanced a sufficient distance to permit territorial separation of army service operations from those of the advance section.

b. Limitations on advance of the communications zone may make it necessary to reinforce army logistical operations by the attachment of communications zone troops to army, but without any formal organization of a separate service command. This situation also might be found in the event that an army, with either a defensive or offensive mission, garrisons a base command. Here the tactical organization would be superimposed, territorially, on a base organization, with the whole under the command of the army commander. The base troops and facilities would be controlled by the army chiefs of technical services.

c. In an occupation situation, an army charged with the occupation mission probably would be supported by a formal logistical and administrative organization. In this event, the formal organization might be a base command, with its commander reporting direct to the army commander but with a separate, independent organization which could continue to function if the army should be moved.

CHAPTER 2

COMMAND

Section I. CHIEF OF STAFF, UNITED STATES ARMY

10. CHIEF OF STAFF, UNITED STATES ARMY. The Chief of Staff is the principal Army adviser to the President, to the Secretary of Defense, and to the Secretary of the Army on the conduct of war. He is the principal military adviser and executive to the Secretary of the Army on the military activities of the Department of the Army. The Chief of Staff has command of all components of the Army of the United States. He is a member of the War Council and the Joint Chiefs of Staff.

11. VICE CHIEF OF STAFF. The Vice Chief of Staff is the principal adviser and assistant to the Chief of Staff, and acts for him in his absence.

Section II. THEATER

12. THEATER COMMANDER (fig. 10). **a.** A theater commander is appointed by the Joint Chiefs of Staff.

b. The theater commander's mission may be prescribed in an approved war plan for a particular theater or stated in a letter of instruction or other order from the Joint Chiefs of Staff. In addition to directing combat operations, he is responsible for the administration of all military agencies within the theater, and for such civil government as may

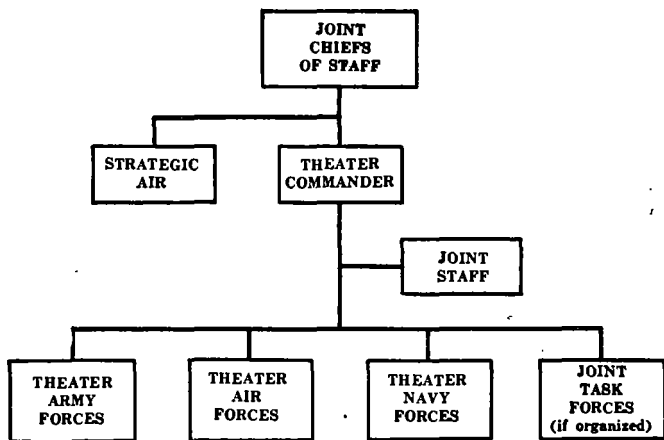


Figure 10. Typical organization chart of a theater of operations.

be appropriate under the situation. He formulates and issues the over-all plans and broad directives necessary to coordinate the activities of army, navy, air force, and task forces under his command. Particularly is this true of the forces and supplies which may be critical in the theater. The theater commander exercises command principally through the theater army commander, the theater navy commander, the theater air force commander, and joint task force commanders if any have been designated. He employs a joint staff to assist him, and to accomplish coordination of these forces. He coordinates with all army, navy, air force, and allied commanders not under theater command, in such manner as may be prescribed by the Joint Chiefs of Staff.

c. Special situations may eliminate the need for one or more of the component forces in any particular theater. This would require corresponding modification of the organization shown in figure 10.

d. Normally, service forces within a joint theater are organized unilaterally; that is, each component force (army, navy, and air force) has its own organization for providing the service support which it requires. Although it is possible that some particular situation might result in the formation of a joint service support organization for the common support of all component forces in the theater, it is more likely that the same results will be obtained by assigning specific common support missions or responsibilities to one component force, to act for all three. The theater commander exercises such coordinating functions over service support activities of the three services as may be assigned by the Joint Chiefs of Staff.

e. The organization within a joint theater headquarters must be such as to permit efficient staff supervision and control of the operations of the component forces. The organization probably will be of the general staff type, and each subdivision of the organization will be assigned responsibility for supervision of specific functions, or of functions of a specific type or class. Normally, the only special staff sections of the joint theater commander's staff are those of joint scope or interest, for the exercise of close supervision, or even control, of certain functions which, from their

very nature, require a high degree of coordination at theater level.

13. THE THEATER ARMY COMMANDER (fig. 11).

The theater army commander is designated by the Chief of Staff, United States Army. He is responsible for the tactical operations of all army forces in the theater, if no task force commander has been designated to command part of them. He is responsible to the theater commander for the administrative operations of all army forces in the theater. He coordinates his operations with those of the theater navy and air force. When a joint task force is organized, he is responsible for furnishing support to the army component, and will, in addition, furnish such support to the other components of the joint task force as may be directed or authorized by the theater commander. He exercises command through the commanders of army groups or armies, the army

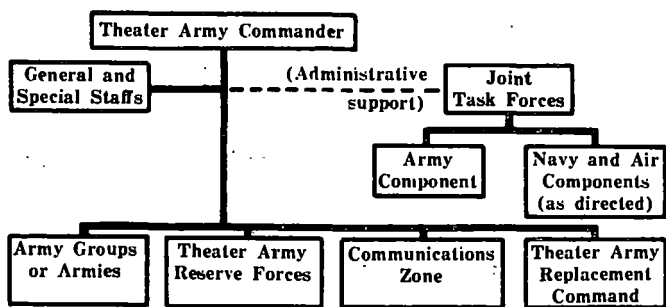


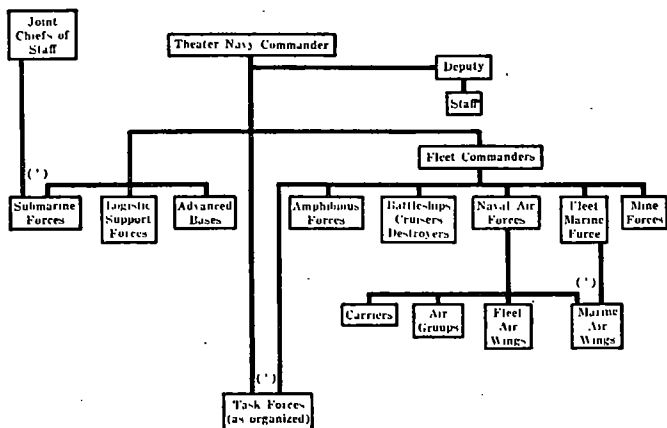
Figure 11.—Typical organization chart of theater army forces.

reserve forces, the communications zone, and the army replacement command. The theater army commander is largely a supervisor, a planner, and a coordinator, who decentralizes combat and administrative operations, to the maximum degree, to his army group and communications zone commanders, respectively.

14. THEATER NAVY COMMANDER (fig. 12). **a.** The theater navy commander is responsible to the theater commander for the tactical employment and administration of all naval forces in the theater, and for coordination with theater army and theater air force. Administration normally is accomplished through type commanders (**b.** (3) below). Tactical employment normally is accomplished through the formation of task forces from forces available for accomplishment of assigned missions. Naval task forces, appropriately organized, will be assigned to joint task forces as required by the theater commander.

b. The following definitions apply to figure 12:

- (1) A fleet is a balanced organization of operating forces designed to meet *general* requirements within the theater.
- (2) A task force is a balanced organization of operating forces, formed as directed by fleet or theater navy commander for the accomplishment of a *specific* task.
- (3) Type commanders are those designated for each major type of force: submarines, logis-



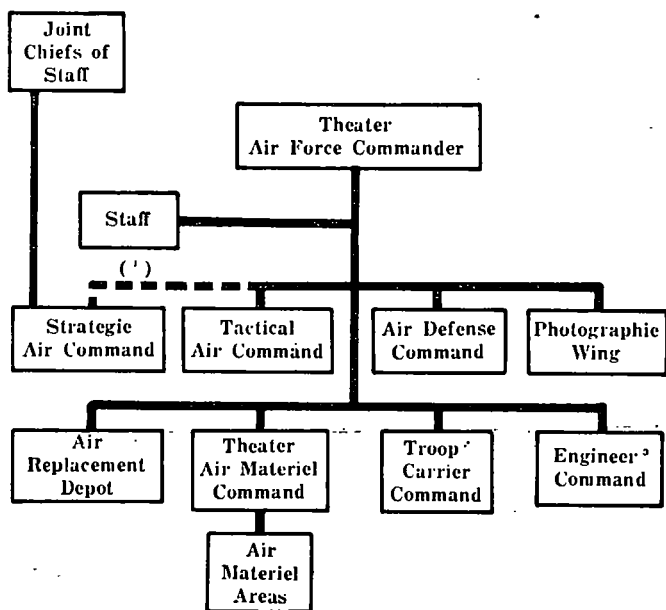
¹ Either command channel may be used, according to circumstances.
 Figure 12. Typical organization chart of theater navy forces.

tic support forces, amphibious forces, battleship cruisers, destroyers, naval air forces, fleet marine force, and mine forces.

15. THEATER AIR FORCE COMMANDER (fig. 13).

The Theater air force commander is responsible to the theater commander for the tactical operations of the theater air forces, for their administrative operations insofar as they affect the conduct of theater affairs, and for coordination with army and navy forces within the theater. Since the composition of the air forces in a particular theater of operations is determined by their mission, no one fixed organization applies to all theaters. However, the theater air forces normally include, as principal components, an air command employed in tactical operations, a

command charged with the air defense of the communications zone, an engineer command, and commands responsible for providing necessary services to air units. An air command utilized for strategic operations may be present in the theater. When so present, it normally is under the direct operational control of the Joint Chiefs of Staff. In order to accomplish best the air mission, the combined action of all these components is necessary.



¹ Limited administrative functions.

² May be assigned to a tactical command.

³ May be decentralized to tactical air command.

Figure 13. Typical organization chart of theater air forces.

16. RELATIONSHIPS OF THEATER ARMY, NAVY, AND AIR FORCE COMMANDERS WITH RESPECTIVE ZONE OF INTERIOR DEPARTMENTS. Although operating under the control of the theater commander, the commanders of the theater army, navy, and air force remain responsible to the Department of the Army, the Department of the Navy, and the Department of the Air Force, respectively, for certain activities which fall within the exclusive jurisdiction of each department. Among the matters for which the component force commanders continue to be responsible directly to their respective departments in the zone of interior are troop basis; doctrines and procedures for organization, equipment, training and employment of their forces; personnel administration; intelligence; and logistical responsibilities.

Section III. COMBAT ZONE

17. ARMY GROUP COMMANDER (figs. 14 and 15). The army group commander is responsible for the tactical operation of the armies under his command. An army group consists of two or more armies with suitable reinforcements placed under a designated commander. The commander estimates the over-all administrative requirements for an operation and makes recommendations to the theater army commander for the allotment of appropriate means, including allocation of replacements, to the armies comprising the group. He allocates service troops to the armies. When necessary, he allocates administrative means to the armies. He normally controls the allocation of ammunition and maps to the armies,

and may control the allocation of any item or service facility in order to insure distribution to the armies in accordance with tactical requirements. He should make certain that the administrative arrangements, policies, and procedures for supply and evacuation of the armies are adequate and not unduly burdensome. The army group commander recommends to the theater army commander the rear boundaries for the armies of his group.

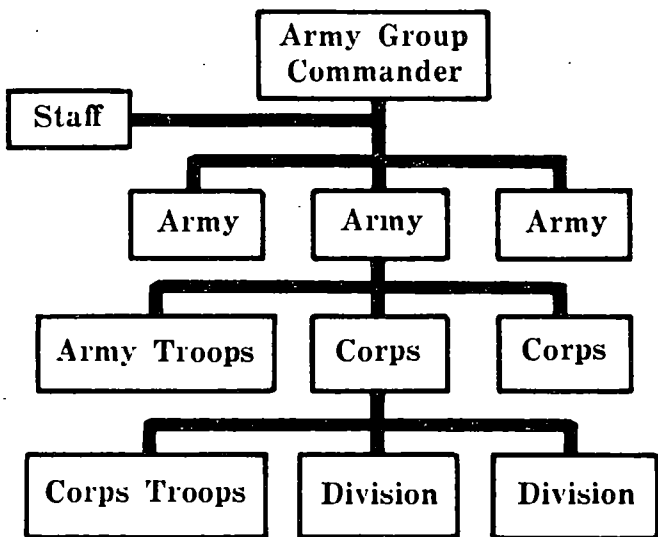


Figure 14. Typical organization chart of an army group, showing command channels. (These also are the channels for the control of those administrative matters for which the army group commander finds such control necessary; for example, allocation of ammunition.)

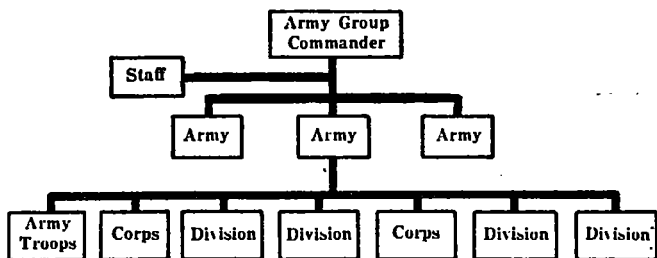


Figure 15. Typical chart of normal channels for administrative matters.

18. FIELD ARMY COMMANDER. Depending on the organization within the theater, the commander of a field army is responsible to the army group commander, the theater army commander, or the theater commander for the tactical and administrative operations within the army. The field army consists of a variable number of corps and divisions, and of service elements for the immediate support of the units within the army area. In all situations, the army commander is responsible for the organization and operation of the necessary services for immediate support *within* the army, including the army service command, when used. This requires long-range planning, a detailed estimate of personnel and logistical needs, a careful study of lines of communications, and constant liaison with the army group, communications zone, theater army replacement command, and theater army commanders.

19. ARMY SERVICE COMMAND COMMANDER. The army service command (ASCOM) commander, if

appointed, commands all service troops assigned or allocated to the field army, and not assigned or attached to the subordinate units. This command may include designated communications zone troops which have been placed under army control, pending or in lieu of the establishment of a conventional communications zone. He is responsible to the field army commander for the service support of the divisions, the corps, and the army troops, and for all operations in the area assigned to him, including the army area, while the ASCOM operates (see par. 8).

20. CORPS COMMANDER. The corps commander is responsible to the army commander for combat operations and certain service functions. The corps primarily is a tactical unit consisting of a very limited number of organic elements, and a variable number of divisions and other units allocated by army in accordance with the tactical situation. The corps commander estimates the over-all service requirements for an operation and, if necessary, makes recommendations for the allocation of appropriate means to the corps. When necessary he allocates administrative means to divisions and corps troops. He normally controls the allocation of ammunition and may control the allocation of any item if required by the tactical situation. When operating separately, the corps becomes a self-contained unit and may operate the service installations necessary for its own administrative support. In such a situation, it normally is reinforced by additional service units and the corps staff augmented as required.

21. DIVISION COMMANDER. The division commander is responsible for combat and administrative operations within the division. Included as integral parts of the division are service elements for the immediate support of the division, such as engineer, medical, military police, ordnance, quartermaster, and signal units. The division commander deals directly with the army commander on all matters of administration, except on the allocation of ammunition and the establishment of the division rear boundary. He may be required by corps to furnish copies of periodic and other reports of an administrative nature.

Section IV. COMMUNICATIONS ZONE

22. COMMUNICATIONS ZONE COMMANDER (fig. 16). **a.** The communications zone commander is responsible to the theater army commander for full administrative support of all army units located in the theater, and for such administrative support of navy, air force, allied, and other forces as may be directed. He also exercises territorial control for the theater army commander within the communications zone. He receives his directives from the theater army commander and, in the execution thereof, coordinates closely and directly with the supported forces. He is charged specifically with all military government activities behind the army rear boundary. Pursuant to these directives, he formulates policies, and prepares long-range and short-range plans for the administrative support of current and future operations. He handles the routine

details of theater army administrative support directly with the designated zone of interior agencies. The communications zone organization will follow one of the two general patterns described in **b** and **c** below, depending upon the scope of operations and the extent of the area involved.

b. The communications zone commander may not divide the communications zone into sections, but may charge his respective chiefs of service with the conduct of all operations of their services throughout the communications zone, and with rendering appropriate service support to all army units and to such navy, air force, allied and other forces as may be directed. (See fig. 16.) Communications zone chiefs of service, under this plan, thus have a dual role as commanders of their own service troops and as staff advisers to the communications zone commander. For certain activities, not the sole responsibility of a single chief of service, subordinate commands may be created. Examples are defense troop organizations, training centers, general depots, and metropolitan areas.

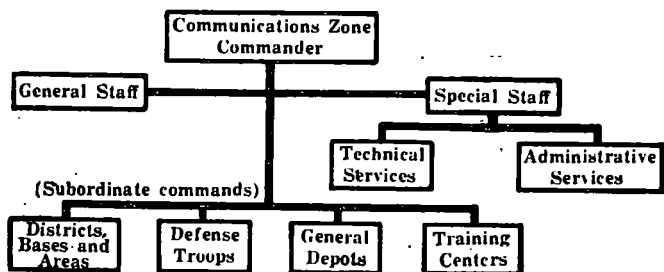


Figure 16. Typical organization chart of a small communications zone.

- c. (1) In a large theater, or wherever local conditions (such as service to supported troops, communications, local coordination, or defense) make it desirable, the communications zone commander divides the communications zone into sections, and decentralizes operations to the section commanders. (See fig. 17.) Each section commander is charged with rendering full administrative support to such forces as may be directed, with the conduct of all operations taking place throughout his section and with territorial control of his section.
- (2) Under this plan, the chiefs of technical and administrative services in communications zone headquarters have the role of staff advisers to the communications zone commander. They supervise the activities of their services throughout the communications zone, through technical channels only. They do not, except for the specifically designated technical services as described in paragraph 23, command the forces actually conducting operations. Command of these forces is delegated to the commanders of the sections in which the operations are located, and orders with regard to these forces or operations must pass through command channels.
- (3) Frequently, the division of the communications zone into sections with the accompanying increase in overhead and lengthened chain of command can be avoided by the

establishment of districts, bases, or areas to relieve the headquarters of burdensome local administrative problems.

d. No specific organization is prescribed for use under any particular set of conditions. There always will be need for flexibility in the application of the foregoing principles of communications zone organization and of control of operations. The commander adopts the type of organization which best will accomplish his mission.

23. INTERSECTIONAL SERVICES (fig. 17). As an exception to the section commander's general responsibility for all operations within his section, the communications zone commander may direct that the command of certain designated intersectional services be charged directly to the appropriate chief of service in communications zone headquarters. (Intersectional services are defined as highly centralized activities, such as construction services, military railway service, highway service, or pipe line service, which cross section boundaries.)

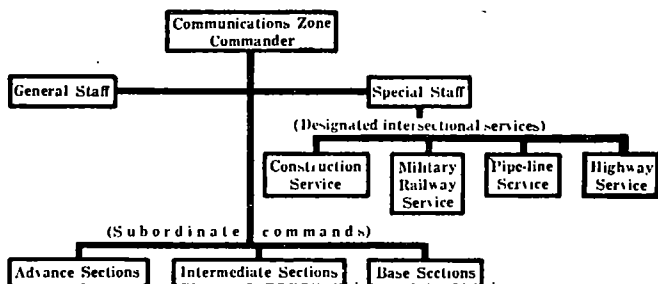


Figure 17. Typical organization chart of a large communications zone.

24. SECTION COMMANDER (fig. 18). **a. Administrative support.** The section commander is responsible to the communications zone commander for rendering full administrative support to such forces, both inside and outside his section, as may be directed, for the conduct of all communications zone operations taking place within his section, except for designated intersectional services; and for the territorial control and the defense of his section. The operation of intersectional activities taking place within the boundaries of a section may be controlled by an appropriate intersectional service, but the section commander normally is charged with local administrative support of such intersectional operations.

b. Liaison. The commanders of the communications zone and of elements of it furnishing direct support to any combat force must maintain the closest possible liaison with the army, navy, or air force commanders supported. Representatives of each of these commanders must be present in the headquarters of the other, and must cooperate actively in the planning and operations being undertaken. They will secure requested information, advise as to the activities and plans of their own headquarters and will keep their own headquarters informed of the plans of the other headquarters. A similar relationship must exist between elements of the communications zone, especially between contiguous sections. The importance of such close relationships cannot be overemphasized.

c. Service support. Normally, the section commander charges his respective chiefs of service with rendering appropriate service support to such forces as may be directed, and with the conduct of all operations of their services throughout the section. In addition, subordinate commands may be created for special activities not the sole responsibility of a single service. Examples are districts, bases, areas, defense troop organizations, general depots, recreation areas, training centers, and labor supervision command. Such commands report directly to the section commander.

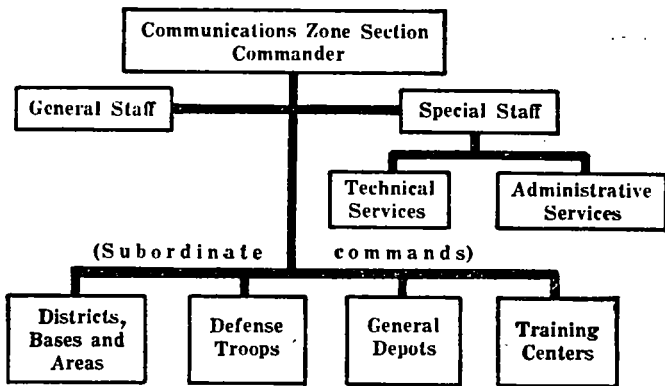


Figure 18. Typical organization chart of a communications zone section.

25. DISTRICTS, BASES, AND AREAS. **a.** Exceptionally, districts, bases, or areas may be created as subordinate commands reporting directly to any designated headquarters. The territory assigned to such commands is exempt from the control of any headquarters subordinate to the one to which the com-

mand is assigned. Such a command might be assigned to theater headquarters when political considerations, such as the administration of a national capital, requires supervision and control at the highest level. Communications zone headquarters can employ these elements to relieve it of burdensome local administrative problems, particularly at isolated points, sometimes eliminating thereby the necessity for division of the zone into sections. Even when the communications zone is divided into sections, it may be desirable for the zone commander to retain direct control of certain activities not directly concerned with the support of the combat forces, especially in the case of small, geographically isolated areas for which he is responsible and which cannot satisfactorily receive direct control and supervision from any section commander. Section commanders may find their employment advantageous as in the case, for example, of a rest area. The functions to be delegated to a district, base, or area commander normally are held to a minimum consistent with the benefits to be derived. Normally, delegated functions do not include responsibility for service support to other forces or for control of major service operations except where the district, base, or area is isolated by great distance or by obstacles such as water or poor communications. The functions assigned must be specific and will be kept to the minimum consistent with conditions.

b. The terms to be used in designating such subdivisions are somewhat overlapping, and will depend upon the purpose of the subdivision.

- (1) A district is a geographical subdivision of a communications zone or section thereof, charged with limited administration and territorial responsibility but not normally responsible for service support or control of major service operations.
- (2) A base is a station or installation from which a force is supported administratively. Designation of isolated stations or groups of installations to support specific forces or activities implies bases.
- (3) An area is a specific territory assigned to a military command. The assignment of specific cities or similar territorial units to subordinate commanders for local control implies areas.

26. THE LOGISTICAL DIVISION. a. The logistical division, a tentative organization, is the basic unit of the combined technical and administrative services. Organically, it includes a headquarters, with general and special staffs, a headquarters battalion, and a minimum number of units of the technical and administrative services. These organic units provide a nucleus for the command of a service force and for the operating functions of the technical and administrative services. The organic division is reinforced by the addition of such expansion units as are needed to provide an appropriate service force for any specific situation.

b. The logistical division, reinforced, is a balanced service force designed to operate a small communica-

tions zone, a section of a communications zone, a large base, district, or area, or a separate or isolated base. When a logistical division is assigned the operation of a communications zone, a section, a district, an area, or a base, the duties of the division commander are as outlined in paragraphs 22, 23, 24, and 25.

Section V. OTHER

27. BASE COMMAND. A base command is established primarily for the administration of all military operations connected with the base or bases operating within it. The base command may be a part of a theater of operations, in which case the commander is responsible to the theater commander, communications zone commander, or section commander. It may be a separate base command, in which case the commander is responsible to the Joint Chiefs of Staff. The term "island command" may be used instead of base command when the area of responsibility is an island or group of islands.

28. DEFENSE COMMAND. A defense command is established for contemplated operations which are motivated by the strategic defense. It may be either a part of a theater of operations, or a separate command. The commander is responsible for tactical and administrative operations; in the former instance to the theater commander and, in the latter, to the Joint Chiefs of Staff.

29. ISLAND COMMAND. An island command is similar to a base command in organization and func-

tions. The area of responsibility normally is one island, but may include adjacent islands. If the island is small, the island command may be subordinate to a base command. For large islands, or single small isolated islands, the commander, island command, may be responsible to the theater commander, a designated tactical commander, the communications zone commander, or the Joint Chiefs of Staff.

30. COMBINED TASK FORCE. A combined task force is a temporary grouping of the units of two or more allies acting together under one commander for the purpose of carrying out a specific mission or operation.

31. JOINT TASK FORCE. A joint task force is a temporary grouping of units of the Army, Navy, and Air Force, under one commander, for the purpose of carrying out a specific mission or operation. Command is exercised through the commanders of the Army, Navy, and Air Force components assigned or attached, or through subordinate joint commanders.

a. A joint overseas expedition is an operation undertaken by a joint task force dispatched to, or within, a theater of operations by sea, by air, or by sea and air, for the purpose of undertaking military operations on shore.

b. The commander of a joint task force is designated by the next higher joint command. The planning and execution of the operation, including the joint training of the units, are his responsibility.

When planning and executing a joint operation, necessary deviations from the normal administrative and tactical functions and procedures of the Army, Navy, and Air Force may be authorized.

c. The joint task force commander is charged with full responsibility for all administrative services within his command. He organizes a suitable joint staff consisting of officers of those services of which the task force is composed. The joint staff prepares coordinated administrative plans and keeps the commander informed of future requirements and of the state of readiness and adequacy of available facilities and supplies.

32. MILITARY AIR TRANSPORT SERVICE. The Military Air Transport Service is a joint agency under the control of the United States Air Force for the air transport of supplies and troops. It operates as a service for the benefit of the Army and Navy, as well as the Air Force. Normally, it operates between the zone of interior and the theater, or between theaters.

33. TROOP CARRIER COMMAND. The Troop Carrier Command is an Air Force unit. Its normal mission is in airborne operations and air supply in the combat zone. It also may furnish air transport service within a theater.

34. COMMANDER, THEATER ARMY REPLACEMENT COMMAND. The commander, theater army replacement command, is responsible to the theater army commander for the administration and operation of

the Army replacement system in conformance with Department of the Army and theater policies. He normally controls all Army replacement personnel in the theater, except those specifically exempted by the theater commander. He commands all Army replacement units in the theater except replacement units assigned or attached to armies or corps.

35. CHIEF OF SERVICE. A chief of service at any echelon of command is the special staff officer representing that service, such as ordnance, engineers, etc., at that echelon. Normally, special staffs of all major commands include representatives from each service. The principal duties of the chief of service are planning, commanding, and supervising, as outlined below.

a. He provides information and technical advice for the commander and the general and special staffs, keeping them informed constantly of the condition, capabilities, and the requirements of those elements of his service which are assigned to the command.

b. His plans include coordination of the over-all operation of his service at and below his level, such as stock control, bed credits, movement plans, maintenance and construction programs; development of uniform methods of administrative procedure for his service; development of new, improved, or specialized types of supplies to meet the peculiar needs of the theater; development of training policies for his service; and furnishing estimates of requirements, and recommending procurement and distribution of the supplies, services, and troops pertaining to his

service. He develops the commander's decisions into operational plans for his service.

c. When directed by his commander, he commands all troops of his service not assigned or attached to lower echelons. He coordinates the assignment and relief of personnel and units of his service.

d. He does not command the chiefs of service or troops of lower echelons, but he does exercise general technical supervision over them and over his service as a whole. Operational plans for his service which will affect such lower echelons are issued through command channels only, and thus are formally part of the plans of his commander. He makes such technical inspections and receives such reports as are necessary to insure proper execution of the plans of the commander. (See par. 38.)

CHAPTER 3

STAFF

36. GENERAL. Each of the commanders previously discussed has a staff to assist him in the exercise of his command responsibilities. This staff performs both administrative and combat operational functions.

a. The staff organization of a unit is designed to fit the responsibilities of the command. However, in most commands, the general staff type organization is used, since it has been found most suitable for field units and large service organizations.

b. For details of this type of staff organization and its operation, see FM 101-5.

37. PLANNING. Planning is a continuing process in any staff, and is carried out concurrently with operations. Planning may be classified as current, short range, or long range.

a. Current planning covers the management of normal day-to-day operations and is the function of the general and special staff sections.

b. Short-range and long-range planning cover successively longer periods ahead. Such planning is a continuing function of all staffs and particularly of the chief of each staff section. When the nature and scope of anticipated operations warrant, the commander temporarily may organize a special planning group, usually composed of selected representa-

tives of the regular staff. Each member of such a planning group may call upon the balance of his regular section to prepare details. This arrangement assures full understanding and subsequent efficient execution of approved plans.

c. The closest coordination must exist between combat and administrative planning. The time and means available to prepare and carry out administrative plans often limit the ability to carry out combat plans. For this reason, combat plans, including all possible alternatives, must be prepared well in advance and examined by G-1 and G-4 to determine whether they can be supported administratively. Administrative plans must be executed in time to insure that combat plans or alternate plans, can be executed.

38. COMMAND AND TECHNICAL CHANNELS. Command and technical channels are used to control the flow of directives, orders, and other official communications between command echelons. They are employed as follows:

a. Command channels are used to transmit directives, orders, instructions, and other official communications to subordinate units and to receive correspondence from them except as noted in b below.

b. Technical channels may be used by the chiefs of technical and administrative services and the staff officers of lower echelons within the limits and in the manner prescribed by the commander to handle technical reports and instructions not involving variations from command policies and directives.

CHAPTER 4

SERVICES

Section I. GENERAL

39. TYPES OF SERVICES. a. The services may be divided into two types: technical and administrative. In this manual, technical and administrative services refer primarily to these services within a theater of operations, and do not necessarily coincide with headquarters of the Department of the Army organizational chart.

b. All of the services listed are not necessarily present in all echelons of command. In echelons lower than army, there normally is no transportation service. Transportation is handled at division level by G-4 who has a transportation officer in his section. Army Transportation Corps units are attached to corps or divisions as required. Many of the administrative services listed are found only in higher echelons. Normally, on division and higher staffs, administrative services are established at least for adjutant general, chaplain, civil affairs-military government, judge advocate, provost marshal, and special service. In echelons of corps and lower level, troop information and education functions are performed by G-3 (S-3) who has a troop information-education officer in his section. The services at higher echelons of command depend upon the size and needs of the command and are provided in ac-

cordance with Department of the Army or theater policies, as appropriate.

40. COMPONENTS OF SERVICE. Each service normally consists of two parts: the special staff officer and his assistants on the special staff, and the operating troops. The duties of the special staff officer and his assistants are listed in detail in FM 101-5. Operating troops (either standard or composite type units) are provided to perform the field operations of the service. An operating overhead, such as a group headquarters, may be used to control field operations. An operating overhead is an essential part of each technical service and may be utilized in other services. If no operating overhead is provided, the functions are performed by the special staff officer and his assistants.

Section II. TECHNICAL SERVICES

41. CHEMICAL. a. Principal functions.

- (1) *Supply.* Supply includes determination of requirements for and procurement, storage, and issue of chemical items of common usage, such as chemical materials of both offensive and defensive nature (except field artillery and mortar ammunition which are the responsibility of ordnance), chemical weapons or equipment; and munitions or supplies used exclusively by chemical troops. Chemical supplies and material include smoke-producing equipment, such as mechanized smoke generators, smoke

pots, smoke grenades, airplane smoke tanks, smoke-producing chemicals, and smoke bombs; incendiaries, such as grenades and bombs; incendiary components, such as petroleum thickeners and igniters; chemical munitions, such as bombs, grenades, bulk chemicals (toxic and nontoxic), and compressed gases for flame throwers; weapons, such as flame throwers (portable and mechanical), and chemical land mines; and defensive equipment, such as gas masks, collective protectors, decontaminating apparatus and materials, and gas testing equipment.

- (2) *Service.* Service includes provision of maintenance, decontamination, processing and laboratory units for the performance of assigned duties, specialized chemical training of personnel and training and operation of chemical units. Maintenance service provided covers field and base maintenance for all chemical equipment. Decontamination service is furnished to units and installations in excess of that normally performed by the individual or unit. Processing includes impregnation and reimpregnation of clothing and equipment in bulk for reissue. Laboratory service includes the examination and analysis of captured matériel and surveillance of supplies and equipment. Service also includes dissemination of technical information pertaining to chemical

warfare, biological warfare, and radiological warfare; and furnishing of technical advice and assistance concerning safety in the processing, handling, and storing of chemical material and in chemical operations.

b. Principal field installations. Principal field installations include supply points, chemical schools, chemical training centers, impregnating plants, maintenance shops, and depots.

c. Principal troop units. Principal troop units include command units, combat units, maintenance and supply units, and miscellaneous units.

- (1) Command units include chemical base depot headquarters and headquarters company, and chemical platoon, company, and battalion headquarters.
- (2) Combat units include groups composed of chemical mortar battalions and chemical smoke generator battalions.
- (3) Maintenance and supply units include chemical depot companies, chemical base depot companies, chemical base depot and maintenance companies, chemical maintenance companies, and various depot and maintenance teams.
- (4) Miscellaneous units include chemical processing companies, chemical base processing companies, chemical decontamination companies, chemical laboratories, and special decontamination, processing, and intelligence teams.

42. ENGINEER. a. Principal functions.

- (1) *Supply.* Supply includes determination of requirements for and procurement, storage, and issue of engineer materials, equipment, and spare parts, such as and pertaining to airplane landing mats, searchlights, assault boats and certain other craft, barrage balloons, bridges, both floating and fixed, construction of all kinds (including prefabricated and portable structures), camouflage, electrical generation and transmission, engineer maintenance (shops, tools, etc.), fire fighting, forestry operations, fortification (such as barbed wire, sand bags, etc.), certain industrial gases, petroleum distribution equipment (such as pipe lines, steel bulk storage tanks and fabric tanks of 10,000 gallons and over, fixed and temporary, including auxiliary fittings, but not including transport or pumping equipment, service station type, fixed or portable, motor or hand), illumination, infrared sighting devices, maps, surveying and map reproduction, fixed refrigeration plants and air conditioning equipment, the supply, purification, distillation, and issue of water, and furnishing technical advice concerning safety in military construction.
- (2) *Service.* Service includes design, construction, rehabilitation or repair, and maintenance of structures of every character (except telephone and telegraph systems and

other signal communication for the use of troops), such as roads, bridges, shelters, airfields, wharves, piers and jetties, and permanent fortifications; construction and rehabilitation of railways (minor maintenance and repair being a responsibility of the Military Railway Service); clearance of obstacles, including minefields; installation and maintenance of fixed refrigeration plants, pipe lines, water supply points, and utilities, and operation of such pipe lines, water supply points, and utilities (which are of general service) as are not specifically assigned to other arms or services; in amphibious operations, waterborne transportation of troops and equipment from ship to shore and from shore to shore, operation of beaches and ports in the early stages of landing, operation of beach and port maintenance areas from the time of the landing onward; surveying, mapping, and production of maps; reproduction of aerial photographs for army units; photographic work pertaining to terrestrial reconnaissance and engineer terrain intelligence; battlefield illumination; supervision and inspection of camouflage technique; generation of certain gases; operation of sawmills and aggregate plants; dredging operations; furnishing electric power; fire fighting and fire prevention; acquisition (by purchase, requisition, or lease) and disposal of real estate,

including land, buildings, docks, wharves, office and storage space, quarters for individuals, organizations, and detachments, rights-of-way and easements; settlement of claims arising from the use and occupancy of real estate where no claims officer is present; and maintenance and repair of engineer supplies and equipment. Also included are dissemination of technical information, specialist training of engineer personnel and training and operation of engineer units for all missions, the study of captured enemy matériel pertaining to engineer activities, and advice and assistance to troop units other than engineer who, during combat operations, are required to engage in construction and fortification, and in assault of fortified positions.

b. Principal field installations. Principal field installations include depots, supply points, maintenance shops, pipe lines, water purification and distillation installations, and central utilities establishments, engineer schools, and engineer training centers.

c. Principal troop units. Principal troops units include command units, combat units, construction units, maintenance and supply units, topographic and intelligence units, and miscellaneous units.

- (1) Command units include headquarters, engineer command, army; headquarters, engineer brigade, corps; headquarters, engineer

brigade; and headquarters, engineer aviation brigade.

- (2) Combat units include special engineer brigade, engineer combat groups and battalions, armored engineer battalions, airborne engineer battalions, and bridge units.
- (3) Construction units include engineer construction groups and battalions, engineer aviation groups and battalions, engineer equipment companies, engineer dump truck companies, and engineer pipe-line companies.
- (4) Maintenance and supply units include engineer maintenance and supply groups, engineer maintenance battalions, engineer depot battalions, engineer field and base maintenance companies, engineer depot companies, engineer parts companies, and engineer equipment supply companies.
- (5) Topographic units include engineer army and base topographic battalions, engineer topographic companies (corps), engineer base map distribution companies, and engineer technical intelligence teams.
- (6) Miscellaneous units include engineer water supply companies, engineer camouflage battalions, and various teams of the engineer service organization.

43. MEDICAL. a. Principal functions.

- (1) *Supply*.—Supply includes determination of requirements for and procurement, storage, and issue of medical, dental, and veterinary

supplies and equipment, such as instruments, drugs, chemicals, biologicals, plasma, whole blood, appliances, dressings, diagnostic and therapeutic apparatus, and field medical equipment.

- (2) *Service*.—Service includes collection, sorting, evacuation, and care of sick and wounded; prevention of disease; direction and supervision of public health measures; nutrition and sanitation among military personnel, prisoners of war, and other persons held in camps under military control, and among inhabitants of occupied territory; inspection of meat, dairy products, and foods of animal origin; physical examinations of personnel; immunization; maintenance and repair of medical supplies and equipment; preparation and proper disposition of medical records and reports of all kinds, including investigations and surveys (see par. 90); specialist training of medical personnel; training and operation of medical units; and coordination and assistance in the prevention of accidental injuries.

b. Principal field installations. Principal field installations include in the division area, battalion aid stations, regimental collecting stations, clearing and ambulance stations, and army mobile surgical hospitals in support of the division for nontransportable casualties; in the army and corps area, clearing stations, evacuation hospitals, and convalescent hospitals, medical supply depots and points, and labora-

tories; in the communications zone, hospital trains, dispensaries, station, field, general, and convalescent hospitals, laboratories, supply depots, Medical Department concentration and hospital centers, medical technical schools, and medical training centers.

c. Principal troop units. Principal troop units include command units, evacuation units, hospitalization units, maintenance and supply units, and miscellaneous units.

- (1) Command units include headquarters and headquarters detachments, medical group; headquarters and headquarters detachments, medical battalion (separate); and headquarters hospital center.
- (2) Evacuation units include medical battalions of infantry, armored, and airborne divisions; medical collecting companies (separate); medical clearing companies (separate); medical ambulance companies, motor (separate); medical gas treatment battalions; medical holding battalions; and hospital trains.
- (3) Hospitalization units include evacuation hospitals (750 bed), semimobile evacuation hospitals (400 bed), convalescent hospitals, field hospitals (400 bed), mobile army surgical hospitals, general hospitals, station hospitals, and convalescent camps.
- (4) Maintenance and supply units include medical depot companies, combat zone, medical base depots, and medical laboratories.
- (5) Miscellaneous units include miscellaneous

teams, such as medical headquarters, professional, supply, maintenance, and food inspection. Laboratory and preventive medicine type are required additionally to provide balanced medical, dental, and veterinary service within the theater.

d. Principal veterinary units. Principal veterinary units include veterinary food inspection detachments, veterinary detachments (aviation), veterinary animal service detachments, headquarters veterinary animal service teams, veterinary evacuation detachments, veterinary companies (separate), veterinary hospital detachments, veterinary evacuation hospitals, veterinary general hospitals, veterinary station hospitals. In theaters where animals are used to any appreciable extent, appropriate service will be established.

44. ORDNANCE. a. Principal functions.

- (1) *Supply.* Supply includes determination of requirements for and procurement, storage, and issue of ordnance matériel, such as weapons and ammunition (less chemical material); general purpose vehicles (including bicycles, motorcycles, automobiles, trucks, and trailers); special purpose and special equipment vehicles (except when otherwise prescribed by the Department of the Army); combat vehicles (including armored, track and half-track vehicles); fire control instruments; and the spare parts, assemblies, tools, and cleaning and preserv-

ing materials necessary to the maintenance of all ordnance equipment.

- (2) *Service.* Service includes modification, maintenance, and repair of all ordnance equipment and matériel (including modification, field and base maintenance and repair of automotive equipment procured for other branches); collection and dissemination of technical information, operating and maintenance instructions pertinent to ordnance matériel, including allied and enemy matériel (as necessary); collection, evaluation, and dissemination of ordnance technical intelligence regarding enemy ordnance type matériel; disposal of ammunition, ammunition components, explosives, duds, and unexploded or delayed action bombs (except booby traps and land mines); technical inspection of ordnance matériel and ammunition, including inspection and technical supervision of organizational maintenance; collection, evacuation, and reclamation of ordnance supplies and equipment and of captured or abandoned ordnance supplies and equipment; review of supply and use of matériel required in an operation; maintenance and preservation of ordnance matériel to determine that such matériel is being used as prescribed and in proper quantities; instruction of using personnel in preventive maintenance, servicing, characteristics and limitations of ordnance equip-

ment, specialist training of ordnance personnel; establishment of standards of serviceability for ordnance equipment; and training and operation of ordnance units, installations, and activities; furnishing technical advice and assistance concerning safety in the processing, handling, and storage of ordnance matériel and in ordnance operations.

b. Principal field installations. Principal field installations include ammunition depots and supply points, ordnance (general supply) depots, vehicle assembly plants, vehicle and artillery parks, maintenance shops, collecting points, ordnance schools and training centers.

c. Principal troop units. Principal troop units include command units, supply units, maintenance units, and miscellaneous units.

- (1) Command and control units include group and battalion headquarters and headquarters detachments.
- (2) Supply units include ammunition companies, depot companies, and vehicle and artillery park and distributing units.
- (3) Maintenance units include direct support and heavy field maintenance companies, division maintenance companies and battalions, heavy (fixed) shop units, tire repair companies and detachments, and special maintenance teams.
- (4) Miscellaneous units include recovery and evacuation units, salvage and reclamation

companies, bomb disposal squads, ballistic teams, technical intelligence teams, ammunition renovation companies and detachments, and special instruction teams.

45. QUARTERMASTER. a. Principal functions.

- (1) *Supply.* Supply includes determination of requirements for and procurement, storage, and issue of quartermaster supplies and equipment such as subsistence; clothing; individual and organizational supplies and equipment; office furniture, supplies, and equipment; liquid petroleum fuels, lubricants, and related handling equipment and containers (except for pipeline and certain bulk storage equipment for which the Corps of Engineers has procurement, installation, and major maintenance responsibility); quartermaster mechanical equipment; horses, mules, and dogs; animal transport equipment (harness, saddles, etc.); and supplies of standard manufacture; and supplies common to two or more arms of services (excluding motor vehicles and special or technical items procured or issued exclusively by other services).
- (2) *Service.* Service includes evacuation of salvage and of captured matériel consisting of types of supplies and equipment normally issued by United States Army quartermaster supply agencies; animal transportation; labor for quartermaster activities;

operation of petroleum tank farms and bulk petroleum storage; can and drum manufacturing; drum cleaning, reclamation, and filling facilities; petroleum products laboratory; remount; salvage collection; laundry and dry cleaning; fumigation of clothing and equipage; mobile bath units; bakery; inspection and supervision of food service program; refrigeration; sales commissaries; purchase and contract (except in headquarters having a purchasing officer); operation of gardens and farms; operation of baggage warehouses and effects depots; maintenance and repair of quartermaster items of issue; graves registration service; determination of quartermaster requirements and capabilities for planned and projected operations; training and operation of quartermaster troop units; conduct of quartermaster schools; dissemination of technical information about friendly and captured enemy quartermaster equipment and supplies, and furnishing technical advice and assistance concerning safety in the handling and storing of materials; and in other quartermaster operations.

b. Principal field installations. Principal field installations include quartermaster supply points, quartermaster depots, labor pools, sales commissaries, laundries and dry cleaning plants, bakeries, and other installations necessary to perform quarter-

master services, including quartermaster schools and training centers.

c. Principal troop units. Principal troop units include command units, supply units, service and maintenance units, and miscellaneous units.

- (1) Command units include headquarters and headquarters company quartermaster base depots; quartermaster group headquarters, and quartermaster battalion headquarters.
- (2) Supply units include mobile petroleum supply companies; railhead companies, depot companies (supply), base depot companies, and base petroleum supply companies. Division quartermaster units, because of their supply functions, also may be included in this category but they provide, in addition to supply, such services as salvage collecting, laundry, troop bathing, and graves registrations.
- (3) Service and maintenance units include bakery companies, laundry companies, salvage collecting companies, refrigeration companies (fixed and mobile), salvage repair companies (fixed and semimobile), clothing exchange and bath companies, graves registration companies, and service companies. Special hospital laundry detachments, office machine repair detachments, large drum manufacturing companies, base and mobile petroleum products laboratories, drum cleaning detachments, drum filling detachments and clothing and equipment repair

detachments also are included in this category.

- (4) Miscellaneous units include mobile sales company, base depot supply and sales company.

46. SIGNAL. a. Principal functions.

- (1) *Supply.* Supply includes determination of requirements for and procurement, storage, and issue of items of signal equipment and supplies used in common by all troops (excluding items peculiar to the Navy and Air Force), such as radio communication equipment; electrical apparatus for radio direction and range finding; telephone; wire and cable; telegraph, including teletypewriter and similar printing telegraph and facsimile equipment; special communication facilities and equipment for public address and voice paging, sound recording and reproduction, and sound and flash ranging; meteorological, photographic, and V-mail equipment; still and motion picture prints of official United States Army photography; and pigeons and pigeon equipment; and also includes procurement of commercial communication facilities for Department of the Army and the Air Force.
- (2) *Service.* Service includes photographic work (except for the Navy and Air Force) including production of Army light aviation aerial photographs for army units; installation, maintenance, and operation of

all military signal communication systems and equipment (except communication systems within regiments and similar units of other arms and services and certain Air Force communication systems); cryptographic work; maintenance and repair of all items of signal supply; specialist training of signal troops; pigeon training; and training and operation of signal troop units.

b. Principal field installations. Principal field installations include wire network (including carrier, radio relays, switchboard, telephone, teletype, and associated equipment), radio stations, signal centers, signal depots, signal maintenance shops, photographic laboratories and film libraries, and signal schools and training centers.

c. Principal troop units. Principal troop units include command units, supply and repair units, operating and maintenance units, and miscellaneous units.

- (1) Command units include headquarters and headquarters company, signal base depot, and headquarters teams.
- (2) Supply and repair units include signal depot company and signal repair company.
- (3) Operating and maintenance units include division signal company, signal battalion (corps), signal operations battalion, and signal radar maintenance units.
- (4) Miscellaneous units include signal photographic company, signal pigeon company, mobile broadcasting company, signal radio

intelligence company, and various special purpose technical teams of the T/O & E 11-500 series.

47. TRANSPORTATION. a. Principal functions.

- (1) *Supply.* Supply includes determination of requirements for and procurement, storage, and issue of transportation equipment and supplies, such as floating equipment (except that assigned to the Corps of Engineers, and for storage and issue of aircraft crash rescue boats which are assigned to the Air Force), military railway equipment, certain pier operating equipment and certain petroleum handling equipment.
- (2) *Service.* Service includes transportation of personnel and property of the Army by land and water except pipe line; movement control over transportation of personnel and property of the Army by land, water, and nontactical air transport; determination of requirements for all means of transportation including those facilities provided by other services or from civilian sources; operation of the water transport service; military railways; highway transport (including administrative motor vehicle pools); operation of water craft for the Army (except for those boats operated by the Corps of Engineers and the Army Mine Planter Service, and aircraft crash rescue boats

which are assigned to the Air Force), railway shops, ports, docks, stevedoring, and facilities pertaining thereto; maintenance and repair of transportation equipment (rail and water only) and supplies; and specialist training of transportation personnel, training and operation of troop units of the Transportation Corps, and furnishing technical advice and assistance concerning safety in transportation.

b. Principal field installations. Principal field installations include ports, railway, highway, and water terminals, supply depots, repair shops, administrative motor vehicle pools, staging areas, and schools and training centers.

c. Principal troop units. Principal troop units include command units, operating and maintenance units, supply and repair units, and miscellaneous units.

- (1) Command units include major and medium port (overseas) headquarters companies; military railway service and railway grand division headquarters companies; highway transport division headquarters, highway transport group headquarters, and various battalion headquarters.
- (2) Supply and repair units include base depot companies, floating spare parts depots, railway shop units, and marine ship repair units.
- (3) Operating and maintenance units include port companies, harbor craft and small boat

companies, marine maintenance units, railway operating and maintenance units, car companies, truck companies, and amphibious truck companies.

- (4) Miscellaneous units include staging area companies, movement control units, warehouse teams, and freight teams.

Section III. ADMINISTRATIVE SERVICES

48. ADJUTANT GENERAL. a. Principal functions.

- (1) Administration and operation of personnel actions for military personnel, including classification.
- (2) Publication, authentication, and distribution of orders and instructions, except combat orders and certain technical instructions.
- (3) Preservation and administration of records of the command.
- (4) Preparation and distribution of troop and station lists.
- (5) Collection, processing, and dissemination of casualty data.
- (6) Operation of Army postal, courier, and machine record services.
- (7) Supervision of personnel centers, other than those which may be assigned to the Chief of Transportation at ports of embarkation.
- (8) Procurement, storage, and distribution of publications and blank forms.
- (9) Performs office and administrative service for the headquarters.

b. Principal troop units.

- (1) Army postal units.
- (2) Machine records units.
- (3) Replacement depots, battalions, and companies.

49. CHAPLAIN. The chaplain is charged with matters pertaining to the religious and moral life of the soldier and officer. The chaplain primarily is a clergyman, but his functions and interests relate to all military activities so that the values of religion may become a part of the total life of the command. He also has substantial responsibilities toward morale, welfare, and personal affairs.

50. CIVIL AFFAIRS—MILITARY GOVERNMENT. a.

Purpose. The purpose of the civil affairs-military government service is to assist military operations, further national policies, and fulfill the obligation of the occupying force under international law. During combat operations, the primary mission is the support of the arms and other services through control of the civilian population and local resources. This involves restoration of law and order, restoration or support of civil government, emergency aid to civilians in distress, and assistance in the exploitation of local resources. In posthostilities operations, the primary mission is to further the national policies of the United States.

b. Principal functions. Civil affairs-military government encompasses a wide variety of functions, depending on the nature of the occupied country. Each is handled in a manner which insures the most

efficient and economical use of military personnel and services. The functions include civilian law and order; political government and administration; courts and administration of law; civilian supply; public health and sanitation; civilian censorship; civilian communications, including postal service; public utilities; currency and banking; public finance; commodities, prices and rationing; agriculture; industry and manufacture; commerce and trade; labor relations; arts, monuments, and archives; custody and administration of property; disposition, repatriation, or restoration of displaced persons and enemy nationals; public welfare; and civilian education.

c. Troop units. The principal civil affairs-military government units are the military government platoon, military government company, and military government group. Each is made up of cellular teams. The strength and functional character of each unit may be increased or decreased by addition and subtraction of appropriate cellular specialist teams, depending on the strength and qualifications required in the locality where the unit will operate.

51. FINANCE. a. Principal functions. Finance service functions have been placed under the supervision of and consolidated with those of the fiscal director in theaters of operations. Finance functions include the receipt and disbursement of money, whereas fiscal functions include the preparation of estimates and budgets, and the accounting for funds. These combined functions include preparation of estimated fund requirements for the theater; establishment of

methods and procedures for controlling funds allocated to the theater, and assuring their economical use; preparation of periodic reports pertaining to appropriated funds as required; the maintenance of standard, simple, fiscal and cost accounting systems; and supervision of receipt and disbursement of funds, together with accounting therefor. Receipt and disbursement of funds include payment of troops, payment for supplies purchased or requisitioned, payment for damages and claims, and for hired labor; securing reimbursement for public property lost, damaged, or destroyed through fault or neglect; securing reimbursement for shortages in public funds; and custody of financial records. In addition, the auditing of sales and property accounts are performed under the supervision of the fiscal director. Special financial services, such as the processing of allotments for war bonds, insurance premiums, and other financial services as may be required are developed and supervised by the fiscal director. Officers specifically designated as disbursing officers are located at advantageous points within the theater to insure prompt payment of military personnel, vendors, claims, and labor.

b. Comptroller. Whenever the office of comptroller is established with field forces, functions outlined above are under the general supervision of the comptroller.

52. INSPECTOR GENERAL. a. Principal functions.

- (1) Inquires into and reports upon matters which affect the efficiency and economy of the field forces.

- (2) Makes such inspections, investigations, and reports as proper authority may direct.

b. Object of inspections. The object of inspections is to promote general efficiency; determine whether or not the law, orders, and regulations are complied with; observe and report upon the disciplinary and administrative efficiency of commands, officers, and troops; and consider complaints affecting individuals, and allegations concerning conditions which are detrimental to the service. Ordinarily, these inspections include but are not limited to unit administration, housekeeping, preventive medicine, care of sick and wounded, supply, maintenance, transportation, discipline, and morale.

c. IG section. The functions of this service are accomplished by the inspector general section, the chief of which normally receives his instructions direct from and reports direct to the commander, or his chief of staff or deputy chief of staff.

53. JUDGE ADVOCATE GENERAL. a. Principal functions.

- (1) Supervision of the administration of military justice.
- (2) Review of general court-martial charges and investigations before trial is directed.
- (3) Review of records of trials by courts martial and other military tribunals.
- (4) Assistance to proper authority by rendering such other legal services and advice as may be required.
- (5) Custody or disposition of records of all gen-

eral and special courts martial, courts of inquiry, and military commissions.

- (6) Review of claims.
- (7) Recommendations for the appointment of claims officers and appropriate boards.
- (8) Legal advice to members of the command on personal matters.

b. Claims service.

- (1) The claims service in a theater is normally a function of the staff judge advocate. It is organized pursuant to Army Regulations which provide for the designation of a chief of claims for each theater of operations, the appointment of claims commissions, and the establishment of a service for the investigation of accidents and incidents which may give rise to claims (AR 25-20 and 25-90). The chief of claims is charged with the responsibility of investigation, processing, and disposition of claims arising out of service-connected accidents or incidents occurring within the theater, and such other claims as may be turned over to him by higher authority for investigation, processing, or disposition.
- (2) In friendly territory, the statutory basis for the settlement of claims is the act of 2 January 1942 as amended by the act of 22 April 1943. The express purpose of the act is the promotion and maintenance of friendly relations by the prompt settlement of meritorious claims. Provision is made

for the final settlement in a foreign country of claims for damage to, or loss or destruction of, real or personal property, or publicly or privately owned property located therein; and for personal injury to, or death of, persons or inhabitants of such country caused by Army forces, individual members thereof, or noncombatant activities of such forces.

- (3) In enemy territory, the claims service is responsible for the prompt investigation of all service-connected accidents and incidents, even though they may not result in claims. The military governor determines whether claims will be paid. Such payments made are charged to the cost of occupation and are not paid from appropriated funds.
- (4) The scope of activities of the claims service need not be limited to the investigation, processing, and disposition of claims arising under the foreign claims act. In every instance, it extends to other statutes available to the Department of the Army for the settlement of tort claims and includes, as well, the settlement of claims in favor of the United States. It also may be charged by the theater commander with the duty of investigating other claims against or in favor of the United States, such as claims for employees' compensation, labor, pro-

curement, real estate, maritime losses, and any other type which is within the jurisdiction of the theater commander to settle.

54. MILITARY POLICE. a. Principal functions.

- (1) Maintenance of order and discipline.
- (2) Enforcement of laws and regulations.
- (3) Execution of regulatory measures, direction and disciplinary control of traffic.
- (4) Prevention and investigation of crime.
- (5) Apprehension of absentees, escaped military prisoners, and deserters.
- (6) Control of the movements of individuals and their identifications.
- (7) Internment, care, treatment, education, work, and repatriation of prisoners of war, restrained enemy aliens and refugees.
- (8) Protection of property and prevention of pilferage of government equipment and supplies.
- (9) Custody, care and rehabilitation of military prisoners.

b. Principal field installations. Principal field installations include prisoner of war stockades, internment camps for enemy aliens, and confinement facilities for military prisoners.

c. Principal troop units. Principal troop units are—

- (1) Military police companies and battalions assigned to, and integral parts of, divisions and larger units.

- (2) Military police battalions for security and police operations.
- (3) Post, camp, and station companies for general military police duty normally within the communications zone.
- (4) Escort guard companies for collection, escorting, and custody of prisoners of war and dangerous or potentially dangerous enemy aliens.
- (5) Prisoner of war processing companies for processing prisoners of war.
- (6) Military police units and detachments (T/O&E 19-500) for investigation of crime and for other police services.

55. PUBLIC INFORMATION. a. Principal functions.

The public information program is that part of a unified armed forces program which provides the people of the United States with information about their Army to which they are entitled. It seeks to foster and maintain public understanding of the Army as well as to provide factual information and professional opinion on the Army's portion of the national security. The exercise of the public information function and the furthering of favorable relations with the public are a responsibility of command which extends through all echelons and ranks. All members of the Army represent the services to the public and thus share the responsibility for maintaining the confidence and understanding of the public.

b. Supply. Supply includes the determination of the requirements for and procurement, storage, and

issue of those materials necessary to provide the public with information on the activities, policies, and programs of the Army. Such materials include press releases, photographs, motion pictures, pamphlets, and other appropriate items which are furnished through established channels.

c. Service.

- (1) Service to the people of the United States includes furnishing those materials necessary to provide them with information on the activities, policies, and programs of the Army. Such materials include press releases, photographs, motion pictures, pamphlets, and other appropriate items which are furnished through established channels. This service includes appropriate assistance and cooperation for local civilian communities.
- (2) Service to commanders consists of advice and assistance in dealing with national and local representatives of the press and radio, in maintaining friendly relations with the civilian community, and in obtaining public recognition for the achievements of the command collectively and individually.

d. Personnel. Public information personnel advise the commander and his staff on the probable public reaction to the activities, plans, and policies of the command, and insure that the public information aspects are considered before implementation. They also act as principal assistants to the commander in carrying out the above functions.

56. SPECIAL SERVICES. a. Mission. Special Services is charged with the policy control and supervision of matters pertaining to recreation and welfare. Its aims and objectives are achieved through the organization, facilities, and services furnished by the Army and Air Force Exchange Service, the Army and Air Force Motion Picture Service, and the Army Recreational Branch.

b. Principal functions. Operates exchanges, and provides entertainment and recreational facilities for military and other authorized personnel, including motion picture entertainment.

c. Army and Air Force Exchange Service.

(1) Principal functions.

- (a)* Makes available for sale to authorized persons at established prices merchandise and services not furnished by other Army agencies which contribute to the comfort, convenience, and morale of the command.
- (b)* Operates canteens in the theater of operations for the sale of toilet articles, tobacco, food, candy and refreshment items, cleaning and preserving materials, clothing, magazines, and sundry personal items. These services are provided as far forward as the tactical situation permits (mobile canteens may be used), and are intended for enlisted personnel primarily. However, other military, civilian, or naval personnel associated with the Army also are served on an equal basis with enlisted personnel.

- (c) May operate restaurants, tailor shops, shoe repair shops, barber shops, and activities of a similar nature in rear areas.
 - (d) Procures, stores, and distributes supplies and equipment for the operation of exchanges utilizing a system of distribution points from which merchandise may be drawn for retail rationing programs; publishes ration lists; and provides standard ration cards when the rationing of Army and Air Force Exchange sales is required.
- (2) Personnel for the operation of Army and Air Force Exchange Service activities are procured from the theater bulk allotment, and by the employment of civilians. In rear areas, maximum use is made of civilian employees.

57. TROOP INFORMATION AND EDUCATION. a.

Principal functions.

- (1) The troop information and education program, part of a unified armed forces program, assists commanders, through the media of information and education, in developing among military personnel, intelligent, cooperative and loyal effort toward the accomplishment of any mission.
- (2) Troop information and education provides the means by which members of the Army can be furnished current news and adequate

- information, and can improve their knowledge and education.

b. Supply. Supply consists of those items necessary to provide troop information and education services and opportunities and includes such items as motion pictures, newspapers, newsmaps, magazines, radio transcriptions, radio broadcast equipment, radio receivers, publication equipment, and press-wire and other news services. Procurement, storage, and maintenance of equipment standard to another service is made by that service. Where practicable, distribution of materials and services is made through established channels of other services. Education materials are obtained through the United States Armed Forces Institute (USAFI) and through USAFI branches overseas; radio program services through the Armed Forces Radio Service; and press-wire and other news-services through the Armed Forces Press Service.

c. Service. Service includes preparation, publication, and distribution of Army newspapers (Stars and Stripes) and magazines (Yank); preparation and publication of discussion guides (Armed Forces Talk); informational pamphlets, newsmaps, posters, and other printed troop information and education materials; provision of radio broadcasting services to military personnel through establishment of AFR stations; the use of Armed Forces Radio Service program services, and the development of local programs; provision of education services through USAFI branches and the establishment of Army Education Centers; provision of special troop infor-

mation programs such as those for replacement troops, and those preceding a major combat operation; and Troop Attitude Research (where authorized) to provide accurate indexes to the attitudes, opinions, and general morale of troops.

d. Personnel. Troop information and education personnel are furnished to operate USAFI branches, Army Education Centers, and radio broadcast stations; to publish and distribute Army newspapers and magazines, to prepare Army discussion guides, pamphlets, posters, and newsmaps, and to conduct troop attitude research.

58. HISTORICAL SERVICE. The Historical Service assembles historical materials, as appropriate, and supervises historical activities as directed by the theater commander. It provides historical teams, as required, for assignment to organic units having no Historical personnel organically assigned to assist in collation of unit histories.

PART TWO

ADMINISTRATIVE OPERATIONS

CHAPTER 1

PERSONNEL

Section I. STRENGTH, RECORDS, AND REPORTS

59. ADMINISTRATIVE OPERATIONS. Part two of this manual deals with basic Army administrative operations and discusses the principles governing them under the headings of the four general staff sections. Administrative operations to support a given tactical plan may include personnel section activities, such as the furnishing of replacements and maintenance of prisoner of war records; intelligence section activities, such as censorship and counterespionage; operations section activities, such as the installation of signal communication and administrative troop movements; and logistics section activities, such as supply and evacuation. The commander must insure the meshing of all administrative operations into a single coordinated administrative plan which supports the tactical plan.

60. STRENGTHS AND LOCATIONS: Strengths and locations of each unit in the command must be known by the commander and his staff in order that they may plan and execute tactical operations. Strengths

are obtained from personnel strength reports submitted from lower to higher headquarters daily. Changes in strength and location of command posts of units must be reflected promptly in up-to-date records and reports.

61. PERSONNEL RECORDS AND REPORTS. Personnel records and reports include those affecting the individual soldier, such as records incident to his assignment, reassignment, promotion, qualification, awards, punishments, allotments, special duties, leaves of absence, accidents, and other items; and those which concern the command as a whole, such as strength reports, personnel periodic reports, graves registration reports, accident experience records, and other staff records, reports, and memoranda. The purpose of these reports is to provide information for the commander to form the basis for estimates and decisions affecting the command, as a whole, and in making assignments, promotions, awards, and punishments.

62. PERSONNEL ACCOUNTING. a. Personnel accounting requires a uniform personnel accounting system. This system is based on the utilization of machine records which operate under the provisions of TM 12-305 and which use the morning report as the basic document for individual personnel accounting and for organizational reporting. Machine records units are provided to facilitate the operation of the system and to prepare mechanically various records, reports, and rosters. These units provide the

following personnel data; strength returns, locator service, rosters, classification reports, personnel statistics, casualty data, historical records, and related information. The personnel officer is responsible to the commander for making over-all plans concerning the type of information required for personnel planning and administration.

b. Machine records units operate as an integral part of the headquarters to which they are assigned. The commanding officer of the unit functions as a staff officer and should be designated as an assistant adjutant general of the headquarters to facilitate the routine operations of the unit.

63. ARMY PUBLICATIONS. Army publications are the responsibility of the adjutant general of the command for procurement, storage, and distribution. These include Army Regulations, Special Regulations, field manuals, technical manuals, Department of the Army circulars, bulletins, pamphlets, tables of organization and equipment, and other allied publications. Theaters usually issue a parallel but more restricted series of orders, regulations, and publications. Appropriate depots are established in the communications zone and army area to provide adequate storage and distribution.

Section II. REPLACEMENTS

64. GENERAL. a. The personnel replacement system is designed to insure the dependable and timely arrival of properly qualified replacements at units as required. Since the strength of a unit is expended

rapidly in modern combat, replacement of losses must be available readily to maintain combat effectiveness. The replacement system must insure that replacements are trained and hardened for the particular combat area, and properly equipped and qualified by occupational and military training to fill unit vacancies as they occur.

b. Each theater army commander is responsible for making representations to the Department of the Army as to the needs of his command. These requests must be coordinated by the Department of the Army to determine the allotment of replacements to each theater or command in accordance with need, availability, and shipping facilities.

65. THEATER ARMY REPLACEMENT SYSTEM (fig. 19).

The theater army replacement system is designed to control and obtain maximum utilization from pipeline personnel and to insure dependable and timely arrival of qualified replacements at troop units as vacancies occur. The theater army replacement commander is responsible directly to the theater army commander. Decentralization, when necessary, is effected by attachment of replacement units to armies or task forces.

a. The army troop basis for a theater is established by the Department of the Army. It consists of a specified list of tables of organization and equipment units; a specified bulk allotment of personnel for employment in those units, headquarters, and installations organized under tables of distribution; and the authorized replacement stockage of the the-

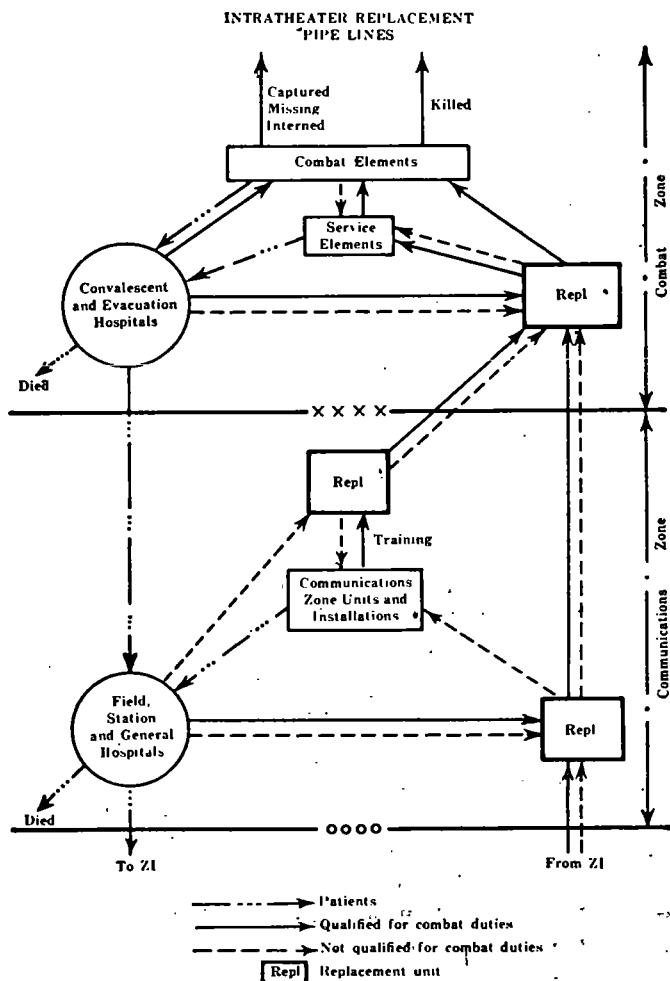


Figure 19. Intratheater replacement pipe lines.

ater which includes all pipe line personnel chargeable to the theater. The size of the replacement stockage authorized for a theater is determined by the magnitude and intensity of planned operations and the capacity of intratheater pipe lines. Replacement pipe lines are shown diagrammatically in figure 19.

b. Replacements are forwarded from replacement depots in the zone of interior to using units in the theater through a chain of appropriately located personnel replacement depots. Normally, theater accountability for replacements begins upon their arrival in the theater.

c. Within theaters, the replacement system receives from the hospital evacuation system those discharged patients not evacuated to the zone of interior. Those who are qualified physically and mentally for return to their former unit and duties are so returned through the replacement system. Those no longer qualified for their former duties are reassigned by the replacement system to other duties, after necessary reconditioning and retraining. In general, combat-fit personnel are returned to their combat units; others are reassigned to army service units or communication zone duties.

d. Some replacements are procured within theaters by training, exchange, retraining, and conversion of personnel who become surplus in their assignments. Surplus accumulates through inactivations, disbandments, reduction of units, and allotments of lesser strengths; by the receipt from the zone of interior of personnel whose military occupational spe-

cialties, grades, and branches are not of foreseeable use; and from hospitals, those personnel whose return to former units is limited by physical or mental disabilities.

e. Officer and enlisted replacements are furnished to theaters by arm and service. Within arm and service, they are furnished in a limited number of balanced primary military occupational specialties and in grades commensurate with the ability of each individual to perform those duties. When no primary military occupational specialists are available, units train specialists on the job, using individuals of a related specialty who have evidenced prior experience and aptitude in the specialty desired. Most of the replacements, particularly enlisted, furnished from the zone of interior are in the lowest grades.

f. A theater army replacement command includes, in addition to replacement units, a headquarters and trainer personnel for the conduct of prescribed training. The theater army replacement command is supported by training, supply, and transportation units as required.

g. Efficient operation of the replacement system is essential to maintain troop morale. Slow processing, long periods of assignment to depots, inactivity, or lack of a recreational program in the depots can work irreparable damage to the morale of replacements. The effective functioning of the replacement system requires a strong and capable commander of the theater army replacement system, with skilled staff assistants and subordinate commanders.

66. REQUISITIONS. a. Theater army bulk requisitions are submitted monthly to the Department of the Army, covering estimated requirements for the third month after the date of requisition. (*Example:* A requisition as of 31 March is the estimated theater requirement for the month of June.) Theater replacement estimates are submitted monthly for anticipated personnel requirements for the fourth through the eighth month after the date of report (reporting date—last day of month.) (*Example:* An estimate as of 31 March gives the anticipated requirements during the period July through November.) Theater replacement rate tables are submitted quarterly in advance and form the basis for filling bulk requisitions. These rate tables indicate the number of replacements by each military occupational specialty and specification serial number required for each thousand replacements of a particular arm or service in the theater. Special requisitions are submitted for personnel by qualification when the requirement for such personnel has not been foreseeable and the need is immediate. Requisitions for personnel to be furnished from the zone of interior are prepared by theater army headquarters.

b. Within the theater, requisitions from army units are submitted as required to the next higher administrative headquarters. Requisitions are consolidated, when appropriate, at each headquarters through which they pass en route to replacement depots and appropriate remarks are made as to priority for filling, whether limited assignment per-

sonnel may be used in whole or part, and the making of reasonable substitutions for personnel when personnel of specific military occupational specialty and grade, or arm or service, are not immediately available.

c. Theater army commanders normally delegate authority for approval of personnel replacement requisitions to lower echelons by the establishment of a system of replacement allocations. Allocations are made after consideration of the over-all strength of the subordinate echelon, the number of division combat days to be expected, and the type of operations planned. Requisitions normally are forwarded through appropriate channels to headquarters immediately subordinate to theater army headquarters for final approval and assignment of priority, and thence to a designated unit of the replacement system for action.

67. REPLACEMENT DEPOTS. Replacement depots in the communications zone are assigned to the theater army replacement command. Replacement depots and battalions are designated numerically like other tactical and service units. A depot is organized as a headquarters with two or more battalions. A battalion consists of three or four (usually four) companies normally capable of housing, feeding, and administering 300 men each.

a. A training program is carried on by replacement units to maintain the skills and physical fitness of replacement personnel, to provide supplementary training in techniques or tactics peculiar to the

theater, and to convert personnel from one military occupational specialty to another to meet emergency theater requirements, and to reduce overstocks of certain types of personnel which may accumulate in the units from time to time. Conversion of personnel from one military occupational specialty to another for periods of 90 days or more will require Department of the Army approval. Training personnel and facilities are attached to the theater army replacement command by the theater army commander, as required, to carry on the training program which has been directed.

b. Specially designed troop information and education programs are conducted by replacement units to prepare replacement personnel mentally for the areas and assignments to which they are destined. These programs include such information as the geography, climate, people, and customs of the area; the military mission of the theater; past accomplishments and the job ahead; and specific facts about the units present in the area to which the replacements are to be assigned. These programs are designed to develop an understanding of the theater requirement and pride in organizations serving therein.

c. Replacement depots and battalions are located on lines of communications accessible to units served and to sources of replacements from the rear. Experience indicates the desirability of pushing these organizations well forward in close support of the units which they serve in order to insure a prompt supply of replacements. A replacement depot

normally is attached to each field army. One replacement battalion of this depot usually supports each actively engaged corps. During the period of attachment the replacement depot is under the command of the field army commander and is not a part of the theater army replacement command.

d. The supply of replacements for replacement installations in the forward areas is replenished by shipments from depots in the rear. Shipments are made on the basis of established allocations and shortages reflected in replacement stockage status reports and projected operational plans of certain combat units.

e. Personnel are retained in replacement organizations for the shortest practicable period. Prolonged stay as a replacement or in pipe line status is destructive to morale. Special care is taken to prevent overstocking of personnel with qualifications for which the demand is limited. Stagnant replacements are reported periodically to higher headquarters for disposition.

f. Personnel returned to duty status from hospitals are an important source of replacements. The full effect of this supply is manifest only after several months of combat operations. Those discharged from medical installations serving divisions may be returned direct to their units or through the replacement battalion serving the corps, depending upon the relative locations of the units concerned. Generally, personnel who, upon hospitalization, remain assigned to their original units are, upon discharge, returned directly to their units. Those who, upon

hospitalization, are transferred to the detachment of patients are, upon discharge, transferred to a replacement unit where they are returned to assignment with their former unit whenever practicable, or are otherwise assigned within the theater. Those qualified for duty with their former combat units are returned thereto automatically without regard to requisition.

g. In order to make full use of the experience of trained soldiers, it is important that such men be used even though their physical capacity may be reduced by wound or disease. To this end, adequate procedures for physical classification must be followed. Assignments made in conformity with such physical evaluations have beneficial effects both on morale and in economy of personnel.

68. ALLOCATIONS. Allocations and priorities are established by the theater army commander within and between major echelons to insure an equitable distribution of available replacements and to support the operational plan. Statistical data are maintained whereby the theater army commander may have accurate information as to strength attrition and requirements of his forces and which when weighed in the light of the tactical plan are a determining factor in setting up allocations and priorities.

69. FORWARDING OF REPLACEMENTS. a. Replacements are sent to a unit when it is in a rest area or in reserve, whenever possible. However, since it frequently is necessary to send replacements forward

while units are engaged in combat, it is essential that close liaison be maintained between personnel sections of combat units and higher headquarters to insure proper reception of the replacements by the units.

b. Headquarters receiving replacements for distribution to troop units make advance arrangements for their reception and orderly distribution to avoid delay. Distribution and assignment conform to the classification and military occupational specialty for which the replacements were trained. Replacements habitually are supplied with individual identification of the military occupational specialty under which they are classified to insure proper assignment in case they are separated temporarily from their records. Casuals returning from schools, rest areas, hospitals, and convalescent centers may be returned to their units through the replacement system. However, men absent without leave, stragglers, and malingerers not members of the replacement system, against whom disciplinary action is pending or in prospect, are returned to their units under arrest through normal military police channels.

Section III. DISCIPLINE, LAW AND ORDER

70. STRAGGLERS. Stragglers are military personnel who have become separated from their organizations either by the exigencies of combat or by personal volition. Stragglers are controlled in bivouac by interior guards; on the march, by organizational control; in combat areas, by operation of straggler lines; and in rear areas, by military police patrols.

a. A straggler line is an imaginary line consisting of a series of straggler posts connected by patrols, where the terrain permits, normally extending across the division zone of action immediately in rear of the field artillery positions. It follows easily identified terrain features which intersect lines of drift to the rear, and it connects with the straggler lines of adjacent units. Straggler posts at which stragglers are assembled for return to their units are called straggler collecting points.

b. At collecting points, arrangements are made for stragglers to reenter combat, and records are kept of the disposition of each case. When necessary, weapons, ammunition, food, and medical attention are furnished.

c. In areas in rear of the immediate fighting, stragglers and individuals absent without leave are found in towns and cities. Rail and motor stations are points where they may be apprehended. The local military police units patrol such localities, take into custody men absent without leave, and return or direct stragglers to their units.

71. ABSENCE WITHOUT LEAVE. Absence without leave is the status of a person subject to military law who has failed to appear at the proper time and place for duty or who has absented himself from his command without proper authority. Personnel absent without leave, when apprehended, are returned under guard, if necessary, to their organization for appropriate action.

a. Absence without leave in time of war is a mili-

tary offense that may result in company punishment, imprisonment, dishonorable discharge, or death sentence, dependent upon the circumstances attending the commission of the act.

b. All stragglers are, in a technical sense, absent without leave. However, many of them are lost, have become separated from their organization in the confusion of combat conditions, or are suffering in some degree from psychoneurotic disorder.

72. DISCIPLINE. Discipline is the habit of intelligent obedience. The ultimate aim of discipline is success in combat. Disciplinary training provides for willing and cheerful response to orders and commands under the most adverse circumstances. Such response during training is prompted by the individual's belief in the fairness, justice, and competence of the commander. Proper discipline insures the observance of existing military regulations, local civil laws and customs, and the rules of proper conduct; it insures the military commander of an area that law and order will be maintained within his jurisdiction regardless of what unit moves into it. Cooperation between military units and local civil authorities is a paramount necessity.

a. Disciplinary measures in the theater of operations must be reasonably adjusted to conditions, and sufficiently rigorous to accomplish their purpose without causing undue hardship. Punishments which remove the offender from hazards and hardships of operations are avoided. Minor offenders are dealt with by immediate commanders under AW 104.

More serious offenders are disciplined through rehabilitation centers by confinement and hard labor for failure to conform to prescribed standards of behavior. If justified by his attitude, the individual, through instruction and special training, may be restored to duty as a useful member of the armed forces.

b. High morale and good discipline go hand in hand. Lack of discipline and unnecessarily harsh discipline are causes of poor morale.

73. MILITARY JUSTICE. **a.** Military justice is the system for the maintenance and enforcement of good order and discipline in the Army. Administration of military justice is effected through disciplinary action under AW 104 and courts-martial processes as prescribed in the Articles of War and the Manual for Courts-Martial, U. S. Army, 1949.

b. Normally, there is established at least one general court for each division or similar command; one special court for each regiment, detached battalion, or similar command; and one summary court for each regiment, group, detached battalion, or other detachments. See Manual for Courts-Martial, U. S. Army, 1949, for detailed procedures on this subject.

Section IV. PRISONERS OF WAR

74. GENERAL. The United States is a party to the two conventions signed at Geneva, Switzerland, on 27 July 1929. One is relative to the treatment of the wounded and sick of armies in the field (Geneva Convention). The other fixes the obligations of the captor power with respect to the treatment of prisoners of war. Department of the Army Regulations

governing prisoners of war are considered and applied according to the spirit as well as the letter of these conventions. TM 27-251 sets forth the two conventions in full; FM 27-10 embodies most of the essential provisions of the above conventions, and TM 19-500 provides the interpretation and implementation of the provisions of the Geneva Convention.

a. Prisoners of war captured or interned in the theater of operations remain in custody of the theater commander until they are released on parole, repatriated, or evacuated to the zone of interior. FM 27-10, TM 19-500 and TM 27-251, specify the persons who may be held as prisoners of war.

b. Rights, privileges, obligations, and treatment of prisoners of war are covered in FM 27-10 and TM 19-500.

c. The administration of prisoners of war is covered in TM 19-500.

75. COLLECTION, EVACUATION, AND INTERROGATION.

a. The individual or unit capturing prisoners disarms them at once and searches them for concealed weapons. Prisoners are permitted to retain clothing, insignia, decorations, identification cards or tags, and all objects of a personal use including, when necessary, helmets and gas masks, but are not permitted to retain arms, horses, military equipment, and military papers. Money may not be taken from prisoners of war except on the order of an officer and upon issuance of a receipt therefor. Pending interrogation, temporary possession may be taken of

such personal effects as necessary, including pictures, papers, and maps. Each prisoner receives a signed receipt for personal items taken from him. Officers, warrant officers, noncommissioned officers, and nonranked enlisted men are segregated as soon as possible. Enemy deserters, stragglers, and accompanying civilians also should be segregated. This segregation is continued until interrogations have been completed. Upon completion of interrogation, officers and enlisted personnel are sheltered and messed separately. Further segregation is made according to nationality. Officer prisoners are treated with respect due their rank and age.

b. Prisoners are conducted to the collecting point of the next higher unit, and are evacuated from the combat zone as rapidly as practicable. Prisoner of war enclosures are facilities established in combat and communications zones by commanding generals of theaters of operations, communications zones, field armies, and, in special instances, corps or divisions for the processing and temporary detention of prisoners.

c. Unless acting independently, the corps normally is not a link in the chain of evacuation of prisoners of war from divisions to army enclosures. Normally, army military police evacuate prisoners from division collecting points to army prisoner of war enclosures. The evacuation of those desired for intelligence examination by corps headquarters is accomplished by corps military police.

d. Wounded and sick prisoners are evacuated in the same manner as friendly wounded and sick. The

medical service reports incapacitated prisoners to the appropriate intelligence section. Personal effects are transmitted with such patients and are made available for use in interrogation. Incapacitated prisoners are assisted to the rear by other prisoners. As soon as practicable after capture, prisoners are given a physical examination, vaccinated against smallpox, and inoculated against typhoid and paratyphoid fevers. Prisoners are furnished medical and dental treatment identical with that provided for United States troops.

e. Military police prisoner of war processing companies perform the administrative processing of prisoners of war in the theater. This function usually is performed at a central enclosure in the communications zone. Basic personnel records (WD AGO Form 19-2) are completed in triplicate with photographs, fingerprints, and detailed personal history. Two copies of these records are sent to the Enemy Prisoner of War Information Bureau, Provost Marshal General's Office, Department of the Army. The original of the basic personnel record accompanies the prisoner during transfer. When processed, serial numbers are assigned to prisoners in accordance with regulations.

f. The systematic and methodical interrogation of prisoners offers one of the most fruitful sources of intelligence. The system of interrogation parallels that of evacuation and is incident thereto. Interrogation takes precedence over rapid evacuation, except in forward areas where prompt removal of prisoners usually is the paramount consideration.

g. The intelligence interrogation of prisoners of war is treated in FM's 30-5 and 30-15.

76. TREATMENT AND UTILIZATION OF PRISONERS OF

WAR. Prisoners of war are in the power of the of the enemy country, but not of the individuals or bodies of troops who capture them. They must be treated with humanity and protected against acts of violence, insults, and public curiosity. Measures of reprisal against them are prohibited. Prisoners have the right to have their persons and their honor respected. Women shall be treated with all regard due their sex. Discrimination in treatment between prisoners is lawful only when based on military grade, state of physical health, professional qualifications, nationality, or sex.

a. Prisoners of war are provided food, clothing, footwear, and shelter. Normally, the food ration of prisoners is equal in quantity and quality to that of troops at base camps.

b. Prisoners are not to be exposed needlessly to danger while awaiting evacuation. Only prisoners who, because of wounds or sickness, would run greater risks by being evacuated than by remaining where they are, may be kept temporarily in a danger zone.

c. Prisoners other than officers are required to perform labor. Noncommissioned officer prisoners are required to do supervisory work only. Prisoners do not receive wages for labor which primarily benefits themselves. This includes labor connected with the administration, management, and maintenance of de-

tention facilities unless the work requires special training or the prisoner of war is employed full time on such work. Prisoners receive wages for other types of labor.

d. No prisoner of war may be employed at work for which he is physically unfit. Work done by prisoners of war will have no direct relation to war operations. It is forbidden in particular to employ prisoners for manufacturing and transporting arms or munitions of any kind or for transporting matériel intended for combat units. It is forbidden to use prisoners of war on unhealthful or dangerous work. (See FM 27-10.)

e. Prisoners are subject to the laws, regulations, and orders in force in the Army of the United States, including the Articles of War. Prisoners who die are buried honorably. The graves are identified with an appropriate marker, respected, and properly maintained.

Section V. BURIALS, GRAVES REGISTRATION, AND EFFECTS

77. GENERAL. Burials and graves registration in the theater of operations are conducted and supervised by the theater graves registration service of the Quartermaster Corps. In the absence of this service, qualified officers and enlisted men must be detailed to perform its functions. The primary duties of this service are the establishment of temporary cemeteries; evacuation and proper interment of the dead, including allied and enemy dead; establishment beyond doubt of their identity, and the forwarding

of their personal effects to the next of kin. Important considerations are the recording of information, including the decedent's name, serial number, grade, and organization; place, cause, and date of death; date of burial, religious interment rites, and location of grave; sanitary protection in the battle area; and morale of the organization and home population. For details, see FM 10-63.

78. BURIALS. Burials are made in established cemeteries, except in emergencies when isolated interments may be necessary. Delay in burial of the dead is a threat to the health of the command, and depresses the morale of combat troops. Isolated burials are reburied in established cemeteries as soon as possible. In the combat zone, battlefield search and evacuation to collecting points usually are the responsibility of combat organizations.

a. Sites for the establishment of temporary military cemeteries are selected by the quartermaster with the technical assistance of the engineer. The number of temporary cemeteries established should be the minimum required to serve forces in the area. The establishment of temporary cemeteries for the exclusive burial of deceased of any one unit or service is prohibited.

b. Allied and enemy dead may be buried in separate cemeteries or in separate sections of cemeteries used for the burial of United States dead.

c. Burials of air crews lost in combat usually are accomplished by ground units operating in the area in which they fall. Burials of other air force per-

sonnel are the responsibility of air force commanders, and usually are made in cemeteries established by army units.

d. Provision of appropriate religious rites is an integral and essential part of the burial process.

e. One identification tag remains on the body at all times and the other is placed on the marker at the head of the grave.

79. REPORTS. a. Prescribed reports showing the identification of the deceased (including name, serial number, grade, and organization), and place, cause, and date of death (including allied and enemy dead) are forwarded promptly through channels to the Quartermaster General, Washington 25, D. C:

b. In the event an isolated burial is necessary, complete information showing the exact location of the grave and identity of the individual buried therein is forwarded promptly in a report to the nearest graves registration officer.

80. PERSONAL EFFECTS. Personal effects found on the body are removed only by graves registration personnel or other personnel trained for this duty. Personal effects left in unit areas are collected by the unit commander. Government property is removed, and the other effects are censored, inventoried, and placed in a suitable container for shipment. Money is converted into a check payable to the effects quartermaster. Effects are registered and sent through quartermaster channels to a theater effects depot, thence to the effects bureau in the zone of interior.

Section VI. MORALE

81. GENERAL. Morale is a mental and emotional state. Good morale is manifested in four basic attitudes that include first, zeal, the voluntary effort which men give to their tasks over and beyond the perfunctory obedience to commands and regulations; second, discipline, the cheerful and understanding subordination of the individual to the good of the team; third, self-confidence, that basic sense of personal worth founded on training, equipment, and leadership; and fourth, satisfaction, the absence of deep discontent and worry concerning the individual's or group's part in the accomplishment of the assigned mission, military leadership, and the future of the individual and the nation.

a. The components which contribute most heavily to maintaining the four basic attitudes of morale are the soldier's confidence in and respect for his leaders; understanding and belief in the cause for which he fights, is prepared to fight, or has fought; belief that he has a personal stake in that cause; understanding of and belief in the mission of his organization; self-confidence, respect, and satisfaction with his own assignment; pride in his organization; and belief in the Army's concern for his individual welfare.

b. Good morale is the direct result of good leadership. The maintenance of morale is the responsibility of command and the concern of commanders in all echelons.

c. In addition to the morale factor of good leadership, administration within a command provides

certain services which strengthen morale. These are termed "morale services." These services include provisions for development of the individual, including leadership; fair treatment and equitable distribution of privileges; religious instruction, service, and ministration; recognition of merit and accomplishment through promotions, decorations; and commendations; and efficient administration of all personnel procedures, including classification and assignment, postal service, pay and allowances, and physical needs of personnel. Almost every administrative duty has a direct bearing on morale. Deficiencies in shelter, supplies, medical attention, and the administrative elements can be minimized or prevented by careful planning and efficient operation on the part of the services; and attention to detail, resourcefulness, and ingenuity in the commander. The commander provides for the welfare and comfort of his men to the fullest extent consistent with the situation and the mission.

82. STATUS OF MORALE. a. The status of the morale of the command should be determined continuously, with special emphasis being given to it just prior to combat. Lacking such information, a commander is acting without considering a fundamental factor in the estimate of combat effectiveness. This information may be obtained and correlated from the formal and informal reports of subordinate commanders and all general and special staff sections, and from troop attitude and opinion research activities when authorized or conducted by the Armed

Forces Information and Education Division, CSD.

b. Fluctuations in morale may be gaged from recurrent regular reports of absence without leave and desertion, sick and venereal rates, courts martial, civil arrests of military personnel, and company punishments. In action, direct observation of morale trends is possible through a check of straggling, desertion, malingering, abandoning of arms, aimless expenditure of ammunition, seeking cover without necessity; deliberate sabotage of equipment, self-inflicted wounds, failure to dispose of casualties, and excessive fatigue without due cause.

c. The most direct source of information on morale is through the regular chain of command. Since information received through this source may be highly colored, it is, therefore, necessary that such information be verified by other means. Frequent inspections by higher commanders and regular visits by staff officers, acting in their official capacity, do much to supplement such information. Headquarters are so organized as to permit the officer charged with general staff personnel functions to devote much of his time to such visits, especially when troops are in combat or otherwise under strain.

d. The troop attitude and opinion research activities of the troop information and education service provide an index to the general status of morale. Fluctuations in morale are determined by attitude studies conducted at regular intervals among carefully selected cross sections of troops in a command. These activities provide data on the current status of specific morale problems, and indicate trends by

which future critical morale problems can be predicted.

83. ARMY POSTAL SERVICE. a. The morale aspects of the Army Postal Service are secondary only to ammunition, food, and medical attention in field operations. It permits, by material means, the maintenance and continuity of contact between the individuals composing a command and their families, friends, and business associates, thus enabling the individuals to maintain, *in absentia*, their positions in their particular society. Lack of this ability by individuals in a civilian army to maintain their position in society to which they eventually will return is an important morale destroying factor.

84. LEAVES OF ABSENCE. Leaves of absence are granted in accordance with the policy prescribed by the theater commander. Under this policy, the commanders of lower echelons may vary the terms and conditions governing leave in whatever way contributes most to the morale of their organizations. The number who can be away at any one time must be determined by the commander, and depends on the tactical situation and plans for training.

85. REST AREAS, REST CAMPS, LEAVE CENTERS, AND RECREATION AREAS. a. Rest areas generally are located in the combat zone, and are organized for the primary purpose of providing facilities and opportunity for the rest and rehabilitation of units.

b. Rest camps generally are located in the combat zone primarily to provide opportunity for rest and

recuperation of battle-tired officers and enlisted men before they reach the critical battle exhaustion stage.

c. Leave centers usually are established in large cities set aside for the purpose of providing opportunity for rest and relaxation for Army personnel while visiting them on pass or leave. Such centers usually are located in the communications zone of a theater, although on occasion they may be located in an army rear area.

d. A recreational area differs from a leave center in that it usually is larger and encompasses an entire resort area in which several towns are located. Its purpose is to provide an area where officer and enlisted personnel can go for rest and recreation for a period of usually 7 days. It may accommodate as many as 30,000 troops with separate locations for officers and enlisted personnel.

86. RECREATION. Recreation is a vital factor in the development of morale. Ample provision for recreation, suited to individual preference so far as practicable, is a command function in all echelons.

a. Special Services is represented by an officer on the special staff of all headquarters down to and including division headquarters and permanent or semipermanent installations. In smaller units, an officer other than a chaplain may be designated as special services officer in addition to other duties.

b. Recreational activities in the theater of operations include, but are not restricted to, athletics, professional and soldier show entertainment, music, library services, hobby shops, motion pictures, service

clubs, rest centers, and such other miscellaneous social and recreational activities as are appropriate and practicable.

c. Army and Air Force Exchanges directly affect soldier welfare and morale by supplying items of comfort and necessity.

d. A special services company is a mobile special services unit capable of providing varied types of special services support for troops, including motion picture, sports, music and theater, library and hobby activities. Each platoon of the special services company may operate as a separate unit and it is intended that such operation include the servicing of troops at all installations within a command.

87. WELFARE SERVICES. Welfare services in theaters of operations parallel those in the zone of interior and include emergency relief, insurance and allotments, legal aid, and American Red Cross information and home service. Welfare and recreational services of the American Red Cross (AR 850-75) and other authorized civilian and welfare agencies may be used by theater commanders to supplement their own activities.

88. CITATIONS, HONORS, AWARDS, AND DECORATIONS. Recognition and reward of *individual* merit or achievement, contributes to the support of morale by stimulating confidence, determination, and loyalty. Recognition and reward of *unit* merit or achievement impels the unselfish cooperation essential to the development of unity of command and purpose.

a. Awards of authorized decorations and citations are covered in regulations. (AR's 260-15 and 600-45).

b. The effectiveness of citations, honors, awards, and decorations depends on uniformity of policy, judicial interpretation of regulations, prompt recognition, and decorous presentation accompanied by adequate publicity. The theater commander establishes and maintains uniform practices in these matters. Unit commanders insure the effectiveness of policy by the use of awards boards, precombat training, frequent comparison of awards to accomplishment, observation, and administrative reports.

c. Commendations are especially valuable as incentives. Wherever merited, the commander expresses his pleasure to individuals before their comrades and immediately upon the earning of the commendation. Later, commendations are reduced in writing and, when warranted, made a matter of record for official use.

89. RELIGIOUS ACTIVITIES. Religious activities are among the functions of the chaplain who is charged with all matters pertaining to the moral and spiritual life of the soldier. As far as is practical, all denominations should have religious services; special religious feasts are observed if the tactical situation permits. Information on all religious activities is published to the command, which is encouraged to participate in the services. Religious welfare is the responsibility of the commander. The chaplain is his technical adviser in this field.

90. PREVENTIVE MEDICINE AND PERSONAL HYGIENE. Preventive medicine and personal hygiene contribute to morale and individual effectiveness, and conserve manpower by the prevention of physical and mental disease. Injuries, infections, venereal diseases, insects, exposure, food spoilage, water, and any other environmental elements potentially harmful to the human body or mind are factors to be considered. Commanders of all echelons are responsible for preventive measures and hygiene within their commands.

a. A soldier well trained in personal hygiene enjoys the good morale which is characteristic of the physically healthy individual. A commander, acting upon the technical advice of his surgeon, insures that his troops are indoctrinated properly in health matters and takes effective action to make available the necessary supplies, facilities, and equipment for maintaining a healthy command.

b. Manpower is conserved by planning and executing measures to limit the effect of epidemic disease and of weather conditions. Timely recognition of mental and exhaustion states caused by the stress of combat permits corrective action.

c. The surgeon is responsible to the commander for investigating, reporting on, and making recommendations pertaining to all phases of military hygiene; for studying causes of both battle and non-battle injuries, and advising the commander on the means required to reduce them; for investigating the origins of physical or mental diseases, and recommending measures to eliminate or control them; and for preparing medical plans.

d. A general sanitary survey of a theater of operations includes consideration and study of environmental and social factors, economic conditions, and prevalence of disease. Environmental factors of importance are topographical and meteorological conditions. water supply and facilities for purification, methods of waste disposal, housing conditions, food supplies, kinds of disease-bearing insects and feasible methods for controlling them, and presence of noxious plant or animal life. Social factors of importance include living conditions, health agencies, laws and regulations, and local customs. The epidemic and endemic prevalence of communicable diseases, sources of infection, control measures, and facilities for hospitalization, segregation, and isolation are of particular importance.

e. A limited sanitary survey is made as indicated by the existing health situation for the purpose of controlling or preventing the occurrence of some particular disease or diseases:

f. Local sanitary surveys are made of all towns and cities accessible to troops and of all camp or bivouac sites to be occupied by troops.

91. TROOP INFORMATION AND EDUCATION (see par. 122). Troop information and education activities and services are designed to assist commanders in their basic job of developing effective and well-motivated troops, and therefore are vital morale activities.

a. Troop information activities and services, among other things, stress—

(1) The importance of the individual, in order

- to build self-respect, pride, job satisfaction, and a sense of personal worth.
 - (2) American democratic principles, in order to create an understanding of the American way of life, and to strengthen confidence in the future of the United States.
 - (3) The mission of the armed forces, individually and under unification, in order to provide a common goal.
 - (4) The importance of keeping informed on national and international issues, in order to keep members of the armed forces aware of critical developments in domestic and foreign policies, and to promote an understanding of the peoples of the world.
- b. Army education services are furnished to—
- (1) Provide the education necessary for the soldier to perform his assigned duties effectively.
 - (2) Enable each soldier to meet the educational requirements for promotion.
 - (3) Provide continuing educational opportunity to the soldier.
 - (4) Assist the individual soldier to employ his leisure time profitably and to satisfy his intellectual interests.

92. PUBLICITY. Appropriate and timely unit or individual publicity is an important morale-maintaining factor. News releases, particularly when they recognize heroism, achievement, or promotion, have a two-fold morale-building effect. Public morale is

improved by favorable news about an individual from the local community, and the morale of the individual is improved when he reads of the recognition he has received. Within the limits set by security requirements, commanders should seek justifiable publicity for their subordinates.

Section VII. CIVIL AFFAIRS AND MILITARY GOVERNMENT

93. MILITARY GOVERNMENT. **a.** When military government (see app. II) is exercised, the theater commander has legislative, executive, and judicial authority, subject to the limitations of the rules of land warfare and applicable international conventions. Military government usually is announced by the theater commander through a proclamation to the civilian population, informing them of the fact of occupation, the extent of territory affected, and their obligations, liabilities, duties, and rights. Normally, in a theater of operations, the theater commander delegates to the theater army commander the operation of military government.

b. The military government section is the staff agency concerned with military government, and the relations between military forces, civil government, and the resident civilian population. The principal object of military government is to insure that conditions existing among the civilian population of the area promote operations to the maximum extent, and do not interfere with those operations.

c. As soon as the tactical situation permits, military government units operating under area com-

manders assist combat troops by assuming the burden of administering military government. Within policies established in their zones of responsibility, military government units administer occupied territory through existing civil services and local provincial native officials. Existing customs and political subdivisions are retained whenever possible. The civil laws of occupied territory which do not conflict with theater policy are continued in force, and are administered by local officials with review by military government of their acts.

d. The military government actions that must be performed in a theater include control of civilian movement, evacuation of civilians from certain areas, reestablishment of local civil government, dissolution and control of pro-enemy factions, establishing military courts, supervising public health activities, providing food and other relief supplies where necessary, protection of public and private property and records, controlling distribution of local stocks of necessary supplies, obtaining and arranging for payment of labor, and providing for return of displaced persons to their domiciles.

e. See FM 27-5 for a more detailed discussion of military government.

94. CIVIL AFFAIRS. a. In the territory of an ally liberated from the occupation of an enemy, a civil affairs administration may be established under which the military forces must govern the local population until a native civil government can be restored.

b. Civil affairs control may be established without a proclamation. However, a proclamation by the theater commander is a desirable means of informing all concerned of the conditions imposed on the civilian population by the military forces.

c. Full cooperation of civil authorities is sought. Nevertheless, the military commander does not permit the civil government, individuals, or their property to impede operations, and he takes such preventive measures as may be necessary. Enemy nationals in occupied territory are liable to be apprehended, restrained, secured, or removed.

95. ENEMY COUNTRY. a. In conquered enemy country, the commander may be faced with intensified problems of preventing information from being transmitted to the enemy, sabotage, and guerrilla operations.

b. The occupying force demands and enforces from the inhabitants such obedience as may be necessary for security, maintenance of law and order, and proper administration of the country.

c. For treatment of enemy inhabitants, and public and private property, see FM 27-10.

96. REFUGEES AND DISPLACED PERSONS. Basic policies and procedures governing the control, care, and repatriation of refugees and displaced persons in theaters of operations are established by theater commanders in conformance with directives of the Joint Chiefs of Staff. Preparation of detailed plans for these people, based on theater instructions,

is the responsibility of army and communications zone commanders. Although humanitarian considerations should be recognized where possible, the care and movement of such individuals must not be allowed to interfere with military operations. When circumstances permit, displaced persons are collected, segregated by nationality, fed and sheltered, given medical attention, and transported to their native country or area. Screening of displaced persons is necessary to detect espionage agents and escaping members of the hostile armed force.

97. SUPPLIES FOR CIVILIANS. a. In both friendly and enemy countries, it usually is necessary to furnish limited quantities of relief supplies from military stocks to the civilian population for the prevention of civilian unrest or disease which may hinder military operations or occupation. The principal relief supplies needed are food, coal, petroleum products, medical supplies, and clothing.

b. In estimating requirements for relief supplies, such factors must be taken into account as local production, time of harvest, percentage of population living in cities, extent of estimated scorching by enemy, allowances necessary because of break-down in transportation between production areas and cities, and allowances necessary because of break-down in rationing and food collecting systems. Procurement and stockage are accomplished by the normal supply services based on the estimates of the military government staff officer.

Section VIII. PERSONNEL MANAGEMENT

98. PERSONNEL MANAGEMENT. Military personnel management is the process of planning, organizing, directing, and supervising all personnel in such a manner as to obtain the maximum efficient utilization of military manpower.

99. COMMANDER'S PERSONNEL MANAGEMENT RESPONSIBILITIES. A constant effort is made to provide the individual with skilled leadership at every level; to capitalize on his aptitudes, interests, and talents; to stimulate his initiative; and to impress the lessons of loyalty and patriotism.

- **a.** Effective personal relations in an organization can be satisfactory only when there is complete understanding and respect between individuals. Current information, full and complete explanations, frequent interviews, amicable relations, and full consideration of the individual's welfare are necessary aspects of sound management. Commanders of all echelons—

- (1) Strive for forceful and competent leadership which permeates the entire organization.
- (2) Inform the troops of plans of action and reasons therefor, whenever it is possible and practicable to do so.
- (3) Endeavor on all occasions to remove those causes which make for misunderstanding or dissatisfaction.
- (4) Insure that all members of the command are acquainted with the procedure for register-

ing complaints, together with the action taken thereon.

- (5) Build a feeling of confidence and sympathy which insures the free approach of subordinates for advice and assistance not only in military matters but for personal problems as well.

b. Personnel management, to be effective, operates not only at the top level but at all echelons, including that of the most junior noncommissioned officer. Commanders establish and implement personnel procedures in accordance with established Department of the Army directives that—

- (1) Place the right man on the right job through proper man and job analyses, efficient classification, and careful assignment.
- (2) Stimulate the individual's desire to produce through adequate incentives.
- (3) Capitalize on the individual's intelligence, interests, and aptitudes through suitable training.
- (4) Utilize the individual fully on essential tasks.
- (5) Insure the individual opportunities for professional development through planned and progressive rotation of assignments.

c. The broad principles stated herein are Army policy, established to implement military procedures which will sustain the rights and privileges of Army personnel without discrimination.

Section IX. PERSONNEL PROCEDURES

100. PERSONNEL PROCEDURES. Personnel procedures are the specific methods or processes by which the Army puts many of its personnel management principles into operation to gain maximum effective utilization of its manpower. They include classification, assignment, promotion, transfer and reassignment, reclassification, separation, and retirement.

101. CLASSIFICATION. **a.** Classification is the process of evaluating and continuously reevaluating the individual's mental and physical abilities, interests, education, aptitudes, physical limitations, occupational history, leadership potential, and military experience, in order that the individual can be assigned progressively to those positions which utilize his qualifications to the maximum extent.

b. Classification has as its ultimate objective success in combat through the economical and effective use of personnel. It is a continuous process. As an individual's experience increases, or as new skills are acquired, through attendance at schools, changes in his job classification and duty assignment will become necessary. Similarly, changes in the physical classification of individuals (by the use of the PULHES system) can be expected.

102. ASSIGNMENT. **a.** Assignment is the procedure by which an individual is placed within an organization and given a specific military duty in accordance with his qualifications and the needs of the service.

b. The purpose of assignment is the efficient utilization of manpower in accordance with the needs of the service.

c. As an element of personnel management and a technique of leadership, assignment is a command responsibility. Proper assignment depends upon the correct interpretation and utilization of classification evaluation data. Assignment translates classification into manpower efficiency. As a corollary to classification, assignment must be a continuous process, if maximum utilization is to be made of the Army's most valuable resource—manpower. In making assignments, the qualifications and interests of the individuals must be fitted to the principal consideration—needs of the service. Specific assignment objectives should be forged into a workable policy that will result in having the right man in the right place at the right time.

103. PROMOTIONS. **a.** Promotion is the advancement of military personnel to a grade requiring a greater degree of skill or increased responsibility.

b. The basic reasons for a sound promotion policy are to—

- (1) Effect maximum utilization of an individual's skills and abilities.
- (2) Provide an incentive which will motivate the individual to greater effort and increased efficiency.
- (3) Invest the individual with the degree of authority necessary for the effective execution of his duties.

- (4) Insure the maintenance of unit morale and efficiency and stimulate individual initiative by the promotion of the best qualified in the command as a whole.

c. The criterion for promotion must be demonstrated fitness and capacity for the duties and responsibilities of the next higher grade. Combat promotions should be based on demonstrated leadership on the field of battle.

104. TRANSFER AND REASSIGNMENT. a. Transfer is the shifting of military personnel from one unit or organization of the Army to another, to further the interests of the particular organization or the service as a whole. The primary purpose of a transfer is to effect a more efficient utilization of personnel by shifting individuals to other organizations which have a greater need for or can better utilize their particular skills or abilities, either primary or secondary.

b. Reassignment is a change of an individual from one type of duty or job to another type. The purpose of reassignment is to effect a change in an individual's job when—

- (1) He is in a job which does not adequately utilize his abilities.
- (2) He is in a job for which he lacks the required capacities or abilities.
- (3) There is a more vital need for his particular skills, primary or secondary, elsewhere in the service.

105. RECLASSIFICATION OF ENLISTED PERSONNEL.

a. Reclassification is the process of reviewing and reevaluating the qualifications of enlisted personnel with the objective of better utilization of currently existing qualifications. It is an administrative procedure and is not to be used in lieu of disciplinary action.

b. Reclassification of enlisted personnel is a current process designed to keep their military occupational specialty (MOS) currently reflecting their present skills. This is accomplished by appropriate changes on the soldier's qualification card (DA AGO Form 20) by the unit classification specialist. Upward reclassification is a function of command when the basic prerequisites of awarding an MOS have been met. Downward or lateral reclassification is accomplished by a classification board on the recommendation of the unit commander.

106. DEMOTION AND ELIMINATION OF OFFICERS.

Demotion and elimination of officers is the procedure whereby officers who are inefficient or otherwise unsuitable in their current assignment may be demoted to a lower grade, or separated from the service. Normally, an officer's service should be rated as unsatisfactory before demotion or elimination procedures are initiated. The immediate or any higher commander may initiate proceedings on any officer, permanently or temporarily assigned or attached to his command. Prior to so doing, every effort should be made by the initiating commander to reassign the officer in question within the command. When pro-

ceedings are initiated, they are prepared and forwarded as prescribed in AR 605-200.

107. SEPARATIONS AND RETIREMENT. **a.** Separation of military personnel from the service may be considered in two categories: separation of enlisted personnel, and separation of commissioned personnel.

(1) *Enlisted personnel.* Enlisted personnel may be separated by discharge, resignation and retirement. There are numerous reasons and causes for which an enlisted person may be discharged. In order to resign, an enlisted person must have served for 3 years in an enlistment for an unspecified period of time authorized for certain personnel. Retirement is considered in **b** below. At present, there are five types of discharges authorized: the honorable, the general, the undesirable, the bad conduct, and the dishonorable. The type received determines, to a large extent, the benefits that can be received by the dischargee.

(2) *Officer personnel.* Commissioned personnel may be separated by resignation, discharge, dismissal, dropping from the rolls, and retirement. Each method of separation is governed by appropriate Army Regulations.

b. Although retirement is considered one form or method of separation, technically, a retired individual is not separated, because the retired person does

retain a military status. Further, any retired person may be recalled to active duty. Also, the retired individual has the usual privileges accorded to active duty personnel, such as authority to purchase at Army Exchanges. Retirement may be considered in two categories: retirement of enlisted men and retirement of officers.

- (1) *Enlisted personnel.* Regular Army enlisted personnel can be retired for physical disability, and length of service, provided the individual has a minimum of 20 years' service.
- (2) *Officer personnel.* For officers, retirement is permitted by reasons of physical disability, length of service, and age.

Section X. INTERIOR MANAGEMENT

108. ALLOTMENT OF GRADES. Allotment of grades is authorized a theater in accordance with the tables of organization for the units in its authorized troop basis. Personnel for headquarters and other organizations not covered in the approved theater army troop basis are authorized by the Department of the Army in bulk allotment broken down by grades. The theater army commander makes appropriate bulk suballotments to major army commands of the theater. In order to maintain control over the strength and distribution of such personnel, it is essential that monthly reports of the strength against bulk suballotments be furnished to the theater army headquarters by the major commands, and to the latter by organizations to which they have made au-

thorizations from their bulk suballotment. Authorizations normally are made in the form of tables of distribution and orders from the major army commands of the theater authorizing the formation of the unit.

109. HEADQUARTERS ORGANIZATION AND OPERATION. Headquarters organization and operation must be such that operations may be controlled and the staff afforded maximum facilities consistent with mobility and security requirements.

a. Headquarters often are divided into two echelons. The forward echelon controls operations, while the rear echelon handles the details of administration. It usually is advisable to include in the forward echelon the senior representatives of the technical services most intimately connected with tactical operations. This provision facilitates implementation of the commander's tactical plans by provision of essential service support. The forward echelon should have a minimum of vehicles and impedimenta consistent with actual needs. Tentage and equipment not essential for operations are left in the rear echelon. The headquarters commandant is charged with the actual movement, establishment, and defense of all echelons of the headquarters. The tactical situation and personal preferences of the commander normally dictate the division of the headquarters into echelons, their location, and the details of interior arrangements.

b. Headquarters are located to facilitate command and control of subordinate units, with due regard to

signal communication, routes of communications, cover, facilities, and accommodations for personnel. Headquarters of large units, such as armies, communications zones, communications zone sections, and similar organizations, are located to take advantage of existing buildings and utilities such as light, heat, water, sewage, and local signal communication systems. Public buildings, such as city halls and school buildings, usually are well adapted for conversion to use by large headquarters.

Section XI. CIVILIAN EMPLOYEES

110. GENERAL. The theater commander is responsible that military efficiency is not diminished by employing personnel of the armed forces for work which can be performed by civilians. Administrative operations in connection with civilian employees include agreements with the national government concerned, procurement, transportation, contracts, accounts and records, establishment of uniform rates of pay and working conditions, medical arrangements, and the organization and administration of labor companies and pools. Agreements with national governments and establishment of basic policies are established by the theater commander. The theater Army commander implements the established policies and applies them to Army operations. He may be required to provide the Air Force and Navy with certain services in connection with the utilization of civilian employees.

a. Theater or communications zone commands usually arrange basic agreements with local govern-

ments concerning procurement, distribution, publication of detailed uniform wage scales, and conditions of employment. Initially, these may be arranged by the using services and units but they are centralized as early as practicable in a labor service for the major areas concerned. Administration and supply are decentralized to using units under the jurisdiction of an over-all policy from theater or communications zone headquarters.

b. In any case, the responsible service coordinates with the military government service which establishes the necessary contacts with civil authorities for local procurement. Units in an area which are not under the area commander conform to the area commander's policies. Higher echelons may set up a labor service which can furnish organized labor units to subordinate commands.

111. PERSONS ACCOMPANYING OR SERVING WITH THE ARMY. All persons accompanying or serving with the armies of the United States without the territorial jurisdiction of the United States and, in time of war, all persons accompanying or serving with the armies of the United States in the field, both within and without the territorial jurisdiction of the United States—including civilian employees, press correspondents, photographers, radio commentators, governmental representatives, entertainers, welfare personnel, and other civilians—are subject to military law. Uniforms and insignia will be worn as prescribed by Army Regulations and other Department of the Army directives. A bureau is main-

tained by theater headquarters for the accommodation and control of visitors and civilian technicians to provide them with billets, facilities for work, and facilities for movement throughout the area. Similar visitors' bureaus are operated by army, corps, and division headquarters as needed.

Section XII. SAFETY

112. GENERAL. Maximum utilization of resources is essential to efficient administration, and this can be accomplished only by keeping to a minimum the manpower and monetary losses due to accidents.

113. COMMAND RESPONSIBILITY. The prevention of accidents which result in injury to personnel of his command, in damage to equipment, materials, or property under his jurisdiction, and the payment of claims against the Government, is a responsibility of every commander. It is important to his administration and to the effectiveness of his command that every commander establish a safety program commensurate with the operations and activities under his jurisdiction (AR 385-10 and SR 385-10-20).

CHAPTER 2

INTELLIGENCE

114. GENERAL. Accurate, complete, and timely intelligence is as potent a factor in the conduct of administrative operations as it is in the conduct of tactical operations. In each case, the commander makes estimates of the situation and arrives at decisions after a consideration of his mission, the means available for its accomplishment, and intelligence of the enemy, the area of operations, and the weather. In each case, the commander is responsible for initiating and coordinating the search for that information which, when evaluated and interpreted, gives him the intelligence he requires in a particular situation to accomplish an assigned mission.

a. Administrative support. The administrative support of tactical units includes coordinate responsibilities for air and coastal defense, as well as the vital considerations of internal security, such as lines of communications security and local security of installations. Frequently, tactical operations against isolated or bypassed enemy forces, against enemy airborne operations, or against hostile underground movements and guerillas are required.

b. Intelligence function. The intelligence function of the administrative commander thus is similar in every way to that of the tactical commander, and varies only in the degree of emphasis given the different phases of intelligence activity depending upon

the mission, composition, and situation of the command. The doctrines, processes, and methods of intelligence are uniform throughout the service.

c. Technical service intelligence. Technical service intelligence is a specialized form concerned primarily with the characteristics, design, capabilities, and functioning of new or unknown enemy equipment, and with the discovery and evaluation of trends in new developments and use of new materials by the enemy. Each technical service is responsible for the vigorous prosecution of technical service intelligence in the field of its primary interest. Actual intelligence is secured through troop organizations and individual specialists of the service concerned, and by the use of specially trained technical service intelligence teams within each service. Matériel normally is handled and evacuated through technical channels, but immediate reports and evaluations are transmitted to the intelligence officer at the headquarters concerned for further handling and dissemination through intelligence channels. Operation and administration of technical service intelligence activities are a responsibility of each appropriate chief of technical service, under supervision of the intelligence officer.

115. SPECIFIC REFERENCES. Specific references to the principles, practices, processes, and factors of intelligence are treated in detail in separate manuals and Army Regulations as follows:

- a.** General principles—FM's 30-5, and 100-5.
- b.** Combat intelligence—FM 30-5.

- c. Observation—FM 30-10.
- d. Examination of enemy personnel, repatriates, civilians, documents, and matériel—FM 30-15.
- e. Military maps—FM's 30-20, and 101-10.
- f. Aerial photography—FM 30-21.
- g. Foreign conventional signs and symbols—FM 30-22.
- h. Safeguarding military information—AR 380-5.
- i. Counterintelligence—FM 30-25.
- j. Regulations for correspondents accompanying United States Army forces in the field—FM 30-26.
- k. Regulations for civilian operations, analysts, scientific consultants, and technical observers accompanying United States Army forces in the field—FM 30-27.
- l. Military censorship—FM 30-28.
- m. Aircraft recognition—FM 30-20.
- n. Armored vehicle recognition—FM 30-40.
- o. Naval vessel recognition—FM 30-50.
- p. Signal intelligence—FM 11-35.
- q. Air Corps intelligence procedures—FM 1-40.
- r. Air-ground operations systems—FM 31-35.
- s. Communication security—JANAP 122.
- t. Joint recognition and identification instructions—JANAP 15-154.

CHAPTER 3

OPERATIONS AND TRAINING

Section I. COORDINATION OF COMBAT AND ADMINISTRATIVE PLANS AND OPERATIONS

116. GENERAL. The conduct of combat operations is the primary activity classified under the heading of "operations." There are certain closely allied activities which are administrative in nature or which are especially applicable thereto. The principles which govern these activities include the coordination of combat and administrative plans, troop movements, the training of individuals and units, troop planning, the defense of administrative areas, signal communication, passive air defense, and records and reports.

117. COORDINATION OF COMBAT AND ADMINISTRATIVE PLANS AND OPERATIONS. The coordination of combat and administrative plans and operations is essential. Because of the time element involved in preparing adequate logistical support and the necessity for having the physical means available, combat planners must provide administrative planners with long-range plans upon which the latter can act, and they must keep administrative planners advised of the preparation of all alternative plans or changes in plan. Before putting a plan into execution, combat planners must make sure that the plans

can be supported administratively and must evaluate the effects of the administrative deficiencies upon these plans. Administrative planners must seek timely information from the combat planners to insure their always being in a position to support combat operations as desired. It is the responsibility of each commander to insure that this coordination exists.

Section II. TROOP MOVEMENTS

118. TROOP MOVEMENTS. Troop movements may be classified as tactical or administrative. Tactical troop movements are those made either when in contact with the enemy or when anticipating such contact. Special security measures in the latter case are necessary. For principles involved in tactical movements, see FM 100-5. Administrative troop movements are those made when ground contact with the enemy is remote and when there are no special security requirements other than antiaircraft.

119. METHODS OF MOVEMENTS. Troop movements whether tactical or administrative, are made by marching (foot, motor), water, air, rail, or any combination of these methods. The determination of the particular type of movement to be employed depends upon many factors including the availability, suitability, and capability of the various means of transportation.

120. ADMINISTRATIVE ARRANGEMENTS. a. All tactical and administrative movements involve ad-

ministrative arrangements. The arrangements include—

(1) *For all movements.*

(a) When loading, organization of troops into groups to fit transportation to be furnished; packing, marking, and loading of equipment other than personal; assembly of troops, marching to transportation, and assignment to individual places; provision for mess, medical care, and rest en route; and provision for recreation in case of long trips.

(b) When unloading, provision for reassembly of units, clearing of unloading space, staging, and reuniting of troops and equipment.

(c) Employment of local guides at loading and unloading points and staging areas.

(2) *For highway movements* (foot or motor). Allotment of transportation; priorities of movement; assembly control and loading; selection marking, and maintenance of routes; traffic regulation and traffic control; signal communication; refueling; feeding; resting; maintenance; staging areas; and medical evacuation.

(3) *For rail movements.* Preparation of forms (entraining tables, train consist tables, individual train loading plan); determination of the number and type of trains; loading of personnel, equipment, and vehicles; loading of special supplies; priority of shipment;

selection of loading and unloading areas, staging areas, and movement control stations.

- (4) *For air movements.* Assignment of aircraft for personnel and equipment; packaging and loading of supplies and impedimenta; selection of take-off and landing fields; staging areas; transportation to airfields; and resupply.
- (5) *For water movements.* Determination of types and capacities of transport to be employed; amount and type of supplies to accompany troops; method of transport loading to be employed; staging of units; movements to ports; use of port facilities; unloading, and provision of units for port operations (near and far shore).

b. For organization of the system of transportation, circulation, and control of traffic, and principles involved in movement of supplies, see part two, chapter 6. For planning data pertaining to troop movements, see FM 101-10.

Section III. TRAINING

121. TRAINING. Training of individuals may be divided into three main categories: basic, technical, and tactical. Training of units also may be divided into small unit training, large unit training, combined arms training, and special training such as training for amphibious, jungle, or mountain operations. The basic principles to be considered in plan-

ning and in conducting training are contained in FM 21-5, and in TM 21-250.

a. Basic training is designed to develop in the individual those elementary military techniques and tactics which include general subjects common to all branches, as well as elementary subjects peculiar to the arm or service for which the individual is being trained. Minimum standards are prescribed in mobilization training programs.

b. Technical training is designed to develop in the individual certain skills, including the use of tools and of weapons and the performance of administrative operations. Schools, on-the-job training, and participation in tactical exercises and maneuvers are the usual principal means of attaining and maintaining satisfactory standards of technical training.

c. Tactical training is designed to develop the teamwork necessary to enable the unit to engage successfully in combat. Schools, unit training programs, and participation in tactical exercises and maneuvers are the usual means for maintaining satisfactory standards of tactical training.

d. Service units in the theater of operations receive as much training as their duties will allow. As a minimum, it is necessary to maintain the basic technical and tactical standards described above. In preparing for special operations, it may be necessary to establish complete training centers and schools to convert service units from one type to another or to train individuals in new skills. In all cases, it is essential that the primary service mission of these units be kept in mind, and that sufficient time be al-

lotted for the appropriate individual and unit technical training required by that mission.

e. If individuals are to attain high standards of performance of duty, the ingenuity of the officers responsible must be exercised to the utmost to provide training appropriate to the mission and to the experience and capabilities of the trainees.

122. TROOP INFORMATION AND EDUCATION (see par. 91). a. Troop information and education activities are an integral part of leadership and training. Outstanding leaders have obtained their success by training the soldiers' minds as well as their bodies, bringing them the understanding that their cause was right and that their military service was necessary. The very firmness of the soldiers' sense of mission gave them tenacity and determination in the face of obstacles and hardship. They knew where they were going, what they were to do, and why.

b. Troop information programs are designed to create and maintain in military personnel a feeling of individual responsibility for the attainment of military and national objectives, to motivate personnel by increasing their understanding of proposals and events, and to make the news of the world readily accessible to them. In wartime, these programs include the background and news of the progress of the current military situation.

c. Troop education programs provide for nonmilitary educational opportunities through correspondence courses, self-teaching courses, extension courses,

and class instruction. The soldier is provided an opportunity to add to his military effectiveness and individual competence through instruction and opportunity for study.

d. An officer charged with troop information and education programs and known as the troop information and education officer is provided on the staff of units comparable to a regiment or higher. These officers exercise staff supervision over all troop information and education activities and functions within the command.

e. Materials for the troop information and education program are issued by the Armed Forces Information and Education Division, OSD, by The Adjutant General, Department of the Army and through Signal Corps film libraries. In general, the material consists of information pamphlets, clipsheets, maps, posters, pocket guides, motion pictures, radio programs, education manuals, correspondence courses, and other instructional material.

f. The Attitude Research Branch, Armed Forces Information and Education Division, OSD, makes studies of the attitudes of military personnel of the armed forces. These studies are designed to obtain information needed as a basis for making decision and formulating policy (AR 85-50).

Section IV. ORGANIZATION AND TROOP PLANNING

123. GENERAL. Organization, as it pertains to operations, includes the preparation of and changes in tables of organization and equipment; the assign-

ment and attachment of units; the activation, inactivation, and disbandment of units; the maintenance of troop lists; and the establishment of priorities for the issuance of equipment and for the assignment of personnel.

124. ESTIMATE OF REQUIREMENTS. Troop planning includes an estimate of requirements for troops to accomplish a mission and their procurement. Troop planning for a theater is coordinated with the troop basis authorized the theater by the Department of the Army. Troop planning in a subordinate command is coordinated with the troop basis authorized the theater. The total number of personnel authorized the command is broken down by the troop basis into those personnel carried in units organized on tables of organization, both standard and special, and those carried in a bulk overhead allotment.

125. LIST OF UNITS. A commander must have an up-to-date list of the units which comprise his command. It is necessary, therefore, to maintain for ready reference up-to-date information on each unit of the command, such as the name of the commander, the location of the unit, the tables of organization and equipment under which it is organized, its strength, status of equipment, training proficiency, operational experience, and information on any shortages in personnel and equipment. With this information at hand, priorities, based on operational requirements and the policies of the commander, are established for the assignment of personnel and the

issue of equipment, including priority for the issue of ammunition.

126. CHANGES IN TROOP LIST. A troop list made up to meet certain operational requirements often needs changing as operations progress or plans develop. It may become necessary to add new units and to relieve old ones, and other units may require additional personnel and equipment properly to perform special tasks allotted. Operational experiences often indicate changes in prescribed tables of organization and equipment to meet better the needs of the unit concerned. Recommendations for such changes in tables of organization and equipment are processed through command channels. In preparing such recommendations, members of both the general and the special staff must be consulted, and appropriate action must be taken. Pending approval of these recommendations by the Department of the Army, theater commanders may meet temporary requirements in their respective theaters by authorizing such changes within the scope of their authorized troop basis.

127. SELECTION OF UNITS. In service troop planning, the number, type, and selection of units to obtain a properly balanced force are based upon the mission to be performed and also upon such factors as supported strength, territorial area, terrain, climate, language, customs and attitude of civilians, potential enemy activity, lines of communications, local resources, prevalence of disease, organization and mission of supported, higher, and adjacent units,

and the availability of personnel and equipment. In general, base type service units are selected for communications zones and mobile types for combat zones. Service troop planning is a primary responsibility of each special staff chief of service, coordinated by the logistics officer for sufficiency and by the operations and training officer for availability within troop ceilings.

The sources available to meet troop requirements include units assigned to the command, units or personnel made available by higher authority, provisional units organized from bulk personnel allotments, conversion of surplus units, civilians, and prisoners of war.

Section V. DEFENSE

128. GENERAL. Defense of administrative areas, installations, and lines of communications is essential for uninterrupted logistical support of combat operations. This defense includes protection against hostile air, airborne, naval, or ground attack. Army and communications zone commanders are responsible for the general defense of their respective areas.

129. COMMAND RESPONSIBILITY. Normally, in the defense of administrative areas and installations, local commanders are charged only with defense against ground or airborne attack and passive air defense. Active air and naval defense are provided for the theater as a whole, and are responsibilities of the theater commander.

130. DEFENSE AGAINST GROUND ATTACK. Ground attack may take the form of airborne or amphibious operations, a deep penetration or wide envelopment of front lines, action by guerrillas, or sabotage. Defense against ground attack may be subdivided into two parts: local or close-in defense against action by guerrillas, infiltration by small enemy groups, or sabotage; and general defense against a large-scale hostile attack. Every unit commander is responsible for the local defense of his own unit and installation. The sites chosen for his administrative installations take full advantage of incidental protection afforded by the location of combat units. Suitable combat units, preferably highly mobile troops, are assigned the communications zone commander by theater for general defense purposes. In assigning combat troops to such purely defensive missions, known enemy capabilities, the vulnerability of supporting administrative installations, and the quantity and quality of troops available, all must be weighed carefully in order that sufficient troops are assigned to carry out the defensive mission without dissipating the offensive power of the command as a whole.

131. GENERAL DEFENSE. Organization for general defense may be made on a territorial basis with missions and troops assigned in the combat zone to army, corps, and division commanders and in the communications zone to section commanders. These commanders integrate the local defense plans of individual units with the over-all defense plan and

coordinate the over-all plan with the plans of adjacent commanders, including Air Force and Navy and, when applicable, civilian organizations.

132. DEFENSE MEASURES. a. Local commanders.

Defense measures taken by local commanders may include the construction of defensive works, such as fox holes, road blocks, and antitank ditches; the improvement of natural obstacles with such artificial obstacles as mine fields and barbed wire; and the camouflage of important installations and areas. Assigned to assist commanders in this work are engineer troops trained to lay and remove mine fields and booby traps, to supervise camouflage, and to advise on the construction of defensive works. In addition, ordnance personnel, trained to handle delayed-action or dud bombs and shells that may fall near installations, are made available.

b. Personnel protective training. Defensive measures should include complete personnel protective training against chemical, biological, and radiological warfare. Provision of an adequate gas warning system and the installation of collective protectors is the responsibility of the command. To assist commanders in this work, chemical personnel of chemical troops are available to assist in the training of personnel and the installation of necessary equipment.

c. Conducting defense. The defense is conducted in accordance with principles outlined in FM 100-5.

Section VI. SIGNAL COMMUNICATION

133. SIGNAL COMMUNICATION. Signal communication facilities and systems are established and employed in accordance with the general principles enumerated below.

a. Every commander is responsible for the establishment and maintenance of the signal communication system of his unit and for its efficient operation as part of the system of the next higher command. Responsibility for the establishment and maintenance of signal communication lies with the higher commander in cases of communication between superior and subordinate units, with the commander designated by the common superior in cases of communication between adjacent units, and with the supporting commander in cases of communication between supported and supporting units. Signal communication means must be adequate to meet requirements. If additional means are necessary, higher headquarters provides these means from reserves. Full use is made of existing military and commercial signal communication facilities. Each commander usually allots to the next subordinate commander groups of frequencies for radio operation and groups of permanent wire and cable circuits for telephone and telegraph communication. Conditions may require that detailed control over facilities be exercised by a higher commander. Such conditions may arise, for example, with respect to radio frequency allocations when a large number of units are concentrated in a relatively small area.

b. The signal plan must be integrated closely with

the operations plan which means that the operations officer and the signal officer must effect close coordination. Early information relative to projected operations and installations must be given to the unit signal or communication officer. Alternative means of signal communication must be established to reduce the risk of interrupted communication.

c. Movements of the command post must be coordinated in advance with the signal or communication officer and unnecessary movements must be avoided in order to obtain satisfactory signal communication.

d. The Signal Corps exercises technical supervision over the entire signal service of the field forces. Signal procedures developed and prescribed for operators and users must be adhered to strictly.

e. Policy governing the use of signal communication facilities by civil government and private enterprise and the provision of such facilities for the use of the Red Cross, press, military government, psychological warfare, and troop information and education activities usually is made and administered by the highest commander present.

134. OPERATION OF SIGNAL COMMUNICATION.

Operation of signal communication is essential to the command and control of troops, since efficient signal communication enables a commander to obtain information and issue orders. Lack of adequate signal communication isolates the command and makes it less effective.

a. A communications center is established at each

command post and headquarters to receive, transmit, and deliver official messages. A signal center includes a message center section, a cryptographic section, and one or more operating sections, each of which is responsible for a means of signal communication. These centers may be established to serve a designated headquarters or element thereof, one or more service installations or troop units located in an area, or a combination thereof.

b. Divisions or higher organizations have Signal Corps troops who operate the signal agencies of the organizations down to but not including the next subordinate headquarters. Normally, the signal service for the communications zone and similar commands is provided from signal service organizations. Signal operating instructions (SOIs) are issued for the technical control and coordination of signal agencies throughout the command.

c. The principal means of signal communication are radio, wire, and messenger, and the minor means are visual, sound, pigeon, and certain electronics such as radar. Multiple means are provided to make possible rapid and certain delivery. Requirements of speed must not outweigh the requirements of accuracy or secrecy. In every case, the relative urgency of a message must be considered carefully. The placing of too high a precedence classification on a message may result in a serious delay in the transmission of other messages of greater urgency.

d. Principal types of signal operating units include signal companies and battalions designed to furnish signal communication, and to perform photo-

graphic work; and the signal service organizations from which teams are used to form signal units for special missions.

Section VII. AREA DAMAGE CONTROL

135. AREA DAMAGE CONTROL. Area damage control, normally the responsibility of the local commander, includes protection and control of civilian populations in emergencies connected with enemy action; evacuation of civilians from designated areas; emergency repair of vital installations; fire prevention and protection; bomb disposal; protection against chemical agents, biological warfare, and radioactive compounds; decontamination after bomb disposal; protection against sabotage; camouflage of vital establishments; control of lighting and radio emissions; first aid, ambulance service, and provision for emergency hospitalization of both military and civilian personnel; and establishment of area damage control centers for the receipt of air raid warnings, receipt and dispatch of messages, and coordination of emergency services.

Section VIII. OPERATIONS AND TRAINING RECORDS AND REPORTS

136. OPERATIONS AND TRAINING RECORDS AND REPORTS. Principal operations and training records and reports include the journal and its file, estimates of the situation, situation maps, periodic operation reports, and other reports as called for by higher headquarters.

CHAPTER 4

LOGISTICS—SUPPLY

Section I. RESPONSIBILITY FOR SUPPLY

137. THEATER ARMY COMMANDER. The theater army commander is responsible for the supply of army units in the theater.

a. Normally, he delegates operations to subordinate commanders, but retains responsibility for issuing directives and furnishing plans by which supply operations in the theater are guided. These directives and plans may include provision for—

- (1) The phasing of supply and service units into the theater, and their allocation to subordinate commands.
- (2) The allocation of transport and tonnage between combat troops, supply and service troops, and supplies.
- (3) The issuing of directives which prescribe supply objectives, levels, priorities, rationing policies, storage operations, reserves to be maintained, disposition of excess, etc.
- (4) The issuing of troop bases, plans for use of installations, and plans for projects and operations to those agencies which are to be charged with effecting their supply.
- (5) The establishment of supply control, stock control, and supply reporting systems for the command as a whole.

- (6) The supervision of repair facilities for return to user or to stock of repairable items in all elements of the command.
- (7) The adjustment of supply activities between subordinate commands.
- (8) The approval of issues in excess of allowances and, where necessary, securing Department of the Army approval for such issues.
- (9) The conduct of correspondence with the Department of the Army on all matters pertaining to supply.
- (10) The establishment of an inspector-instructor service to insure proper supply, storage, maintenance, and conservation procedures in all elements of the command.
- (11) The establishment of a safety program adequate to the need of his command.

b. In general, the theater army commander limits his supply operations to the field of plans, policies, special requests, and critical conditions, and delegates the responsibility for the establishment of supporting policies and procedures and for operations to subordinate commanders.

c. See appendix II for definitions of classes of supply.

138. COMMUNICATIONS ZONE COMMANDER. The communications zone commander is responsible for the bulk supply of all items (except items of Air Force supply and equipment) to the armies, theater air forces, theater troops, the communications zone,

theater army replacement command, and such allied, naval, civil, and other organizations as may be designated within the allocations made by the theater army commander. As the commander of communications zone troops, he is responsible for the supply not only of units under his command but also such other units in the area as may be designated. When the communications zone is divided into sections, supply operations become the direct responsibility of the section commanders in accordance with the principles set forth in paragraph 22. It is emphasized that control of theater supply (as distinguished from operations), including stock control and overall control of rebuild maintenance output, must remain the responsibility of the communications zone commander and be centralized in his headquarters. As used in this paragraph, the word "supply" includes all of those operations incident to requirements, procurement, storage, and distribution.

139. SECTION COMMANDER. The section commander is responsible for all supply service activities conducted by the troops under his command and will employ them to render full administrative support to such forces as may be directed. He will support and cooperate with other elements of the communications zone and will support other Army, Navy, Air Force, and allied troops within his area, as directed. Finally, he is responsible for the support of all troops under his own command. He is responsible for stock control of supplies within his area, subject to the limitations of orders, directives, and technical in-

structions from communications zone headquarters where rest the single central stock control point for the theater.

140. ARMY GROUP COMMANDER. The army group commander is responsible for all supply policies affecting the armies within his group and establishes supply credits, levels of supply, required supply rates, priorities of issue and allocation of service troops within his group. The army group commander has no depots or supply points which hold stocks, but he is interested in the adequacy and reasonableness of supply arrangements, and takes action to protect the armies against arbitrary or unreasonable administrative demands, or failure of the supporting supply system. He must indicate, to advance section communications zone, allocations of items in short supply which have not been issued to armies, or transfer, as necessary, items which already have been issued to armies. He may be an initiating agency with respect to demands for items originating from future tactical needs, particularly classes IV and V. In class V, the army group commander announces to advance section, communications zone, the required supply rate for the armies.

141. ARMY COMMANDER. The army commander is responsible for the supply of all items to his own units, and by arrangements with the air force commander concerned for the supply of items of common supply to air force units located within his area. He receives estimates and recommendations from all elements of his command and other oper-

ating units in his area, and procures supplies from the communications zone and by exploitation of local resources. Communications zone delivers supplies to army depots and, under unusual circumstances or when requested by army, to supply points. Army is responsible for receiving, storing, distributing, and issuing supplies at its depots and supply points.

142. CORPS COMMANDER. **a.** The corps commander, when the corps is part of an army, ordinarily is not a link in the chain of supply except with respect to corps troops. He supervises the expenditure of class V supplies for the elements of his command. When items of any other class are in short supply, he supervises their allocation or priority of issue to elements of his command. Such allocations are common with respect to class II and class IV materials of limited availability or that have an immediate and direct influence on the tactical operations. (*Examples:* Engineer bridge supplies and signal wire.) Since divisions are switched from corps to corps, the army commander would allocate those items of tables of organization and equipment to fill shortages. In a rapidly moving situation the corps commander must be prepared to assume supply responsibility for his corps by extending to the rear the supply operations of organic troops and transportation by augmentation through direct attachments from army or by coordination with advance army supply agencies. It must be remembered that the corps is not an administrative unit.

b. When the corps is operating as a separate corps

detached from army, the corps commander must be prepared to assume supply responsibility for his corps. When corps is made responsible for administration, additional supervising personnel and service units must be attached or assigned and time must be allowed to permit these groups to assume their new functions and develop teamwork.

143. DIVISION COMMANDER. The division commander is responsible for the supply of all items to his own units, and deals directly with army on all matters of supply of tables of organization and equipment allowances. Ammunition or items in short supply which are deemed to have tactical significance normally are obtained by the division through corps. The division normally operates distributing points for class I and class III supplies. Division service elements normally carry small stocks of class II and class IV supplies. Division ordinarily does not operate a class V supply point. When acting alone, especially in the initial stages of an amphibious operation, the division establishes and operates its own supply points, including class V, on a larger scale, utilizing additional service troops attached for that purpose.

144. RESPONSIBILITY. Commanders of separate ground units, smaller than division, in the combat zone are responsible for their own interior supply and for making their supply needs known to the next higher supply echelon. Normally, they obtain supplies by sending transportation to army supply points pursuant to arrangements that have been made

by the army commander for subordinate units of the army other than corps and divisions, by the corps commander for subordinate units of the corps other than divisions, and by the division commander for subordinate units of the division.

145. SUPPLY DISCIPLINE. Supply discipline is a function of command. Aggressive action must be taken by all commanders to control and conserve supplies from initial receipt until final disposition. Maximum service life must be obtained from each item. Accumulation of excess supplies must be avoided. Maximum use must be made of salvage that can be repaired or otherwise utilized within each command. It must be understood that although tables of organization and equipment and other tables governing issue of supplies constitute the authority for issue, actual issues are governed by availability and are limited by actual necessity, thus conserving supplies and enhancing the mobility of using units. As an operation progresses, supplies are cleared promptly from areas and establishments that are to be abandoned and service personnel moved forward to operate new establishments. G-4's, S-4's, and supply officers of separate units must exercise staff supervision to prevent the abandonment of supplies (especially ammunition), excess equipment, and articles which may have salvage value. Using units either must clear old sites of all such items or, where such clearing is impossible, report their locations to the next higher commander as well as through technical channels.

Section II. REQUIREMENTS

146. SUPPLY REQUIREMENTS. Supply requirements are defined as a statement of all of the supplies needed for the equipment, maintenance, and operation of a force for a particular period of time or to complete a specific project. The term must not be used synonymously with "shortage" and always is accompanied by clarifying modifiers. For example, there is likely to be less confusion if "requirements to meet shortages in authorized reserves" is used, rather than "reserve requirements."

a. In the theater of operations, communications zone, and theater air matériel commands, the commanders must determine the over-all authorizations for supplies and equipment and the on-hand quantities thereof as a basis for current requisitions and long-range planning. Reliable data, especially for the major items, must be maintained as a basis for determining the various requirements not only to complete the initial equipment and reserves of the items themselves, but also to aid in the establishment of spare parts and other maintenance needs.

b. To attain the maximum degree of accuracy in planning requirements and to insure availability of proper types and adequate quantities of supplies best suited to the climate, terrain, types of troops employed, and nature of the operations, the communications zone staff must be informed, as far in advance as possible, of strategic and tactical plans and, conversely, the army staff must be advised, as far in advance as possible, of the kinds and quantities

of supplies planned for procurement or available to meet the needs of projected operations. Where special equipment not normally authorized in tables of organization and equipment is required for an operation, requirements must be known or estimated sufficiently far in advance in order to insure procurement and availability for the operations.

c. In the initial stages of mobilization and operation, requirements for equipment largely represent needs for initial issue. In later stages, practically all requirements for equipment represent needs for replacement issue. Department of the Army requirements for these replacements are computed on the forecast of troop deployment and theater replacement factors or consumption rates. Theater army commanders must establish means of forecasting their own requirements at the earliest possible date, since Department of the Army planning for procurement on a large scale has a lead time of from 9 to 18 months ahead of delivery to troops.

d. Requirements for a particular organization or installation may include the following:

- (1) *Initial equipment requirements* to provide for the initial issue of equipment or to complete shortages in the initial issue.
- (2) *Replacement and consumption requirements* to keep the initial equipment up to authorized strength and to provide articles or supplies which may be consumed or expended by using units.
- (3) *Reserve requirements* to establish or replenish an approved reserve.

- (4) *Project requirements* to provide equipment or supplies not authorized by established allowances.

147. INITIAL EQUIPMENT REQUIREMENTS. Initial equipment requirements are those allowances for the command prescribed in tables of organization and equipment, tables of allowances, equipment modification lists, and similar authorizations. Requirements personnel in the command must obtain or prepare, and keep current, periodic statements of these requirements both for the purpose of completing shortages in the initial equipment of the command and for the purpose of computing replacement and consumption requirements and reserve requirements.

a. In an oversea command, the computation of these initial equipment requirements is dependent upon a knowledge of items such as those listed below.

- (1) The troop basis and the allowance authorizations under which the troops and installations are to be supplied.
- (2) The status of equipment in the hands of troop units.
- (3) The date of arrival or activation of troop units or the date on which supplies are needed for its installations.

b. The computation of these requirements and the determination of shortages are technical service functions. Commanders and staffs must provide the services with the basic data, such as troop basis, status of equipment in the hands of troop units, phased arrivals, and the period of time for which

computations are to be made, and must see that inventories or estimates are made available, covering items on hand not only under service control, but also within other commands not controlled by the services.

148. REPLACEMENT AND CONSUMPTION REQUIREMENTS. The successful day-to-day operation of an organization demands that supplies be readily available for succeeding operations. Where issues are received daily, these needs can be met with a minimum or zero stock. Where issues are received at longer intervals, it usually is necessary to carry maintenance stocks and to insure their prompt replenishment. The determination of these daily or periodic requirements for maintenance is a technical service function. Commanders and staffs are concerned with furnishing the technical services with information which will permit them to forecast their requirements sufficiently far in advance to meet the demands of the contemplated operations. Commanders and staffs also are responsible that necessary experience data are obtained from using units to facilitate improvement in the factors used in determining the requirements for sustaining the operations.

149. RESERVE REQUIREMENTS. Reserve requirements represent the quantities of items needed to meet the minimum level of supply for the command as defined in paragraph 151a and to set up any additional reserves which may be prescribed for par-

ticular purposes, such as contingency reserves which might set up complete sets of equipment for type organizations over and above the authorized levels. The computation of these requirements is a technical service function. The commanders and staffs are responsible for obtaining authorizations for reserves from the next higher command echelon, and for issuing directives and supplying guidance to the technical services for the accumulation and replenishment of reserves.

150. PROJECT REQUIREMENTS. Project requirements represent those supplies not included in normal allowances but which are necessary to complete a specific task.

a. Project requirements normally are considered as referring only to class IV supplies. Project requirements do not include initial equipment or normal maintenance for troops. Occasionally, they may provide for supplies pertaining to other classes, such as specially packed or special rations; fixed guns, fire control equipment, and ammunition or mines for harbor defenses; liquid and solid fuels; or even complete sets of equipment for type organizations. An approved project requirement is one which has been authorized by the Department of the Army for supply, including necessary procurement.

b. Class IV supply requirements are classed as being—

- (1) Operational project requirements if they provide additional equipment or supplies for tactical operations.

- (2) Development project requirements if they pertain to the construction, reconstruction, development, or remodeling of military installations, utilities, or facilities required to support military forces or activities in theaters.
- (3) Maintenance project requirements if they provide class IV supplies for day-to-day maintenance of installations, facilities, or utilities which are required to support over-sea forces and military operations.

c. Project requirements may originate in a theater, or they may be included as a part of the Department of the Army plan for a specific operation. The lead time, 9 to 18 months, in the procurement of large quantities of critical materials, or the manufacture of special items, may make it necessary for the Department of the Army to initiate and prepare project requirements based on logistical studies, while other operations are in progress and, frequently, before a theater commander is designated. Project requirements so initiated are revised later, based on theater recommendations.

d. Project requirements include bills of materials and, where necessary, provide a schedule for the shipment of the materials. Complete bills of materials may be prepared in the theaters, but frequently are prepared by the Department of the Army technical services, based on a general statement of the task to be accomplished. The latter method has advantages, especially where construction is necessary,

since technical specialists familiar with design, nomenclature, and sources of materials usually are more readily available in the zone of interior.

e. The theater army commander's responsibility with respect to project requirements consists primarily of—

- (1) Reviewing Department of the Army prepared project requirements to determine their suitability and to recommend necessary changes.
- (2) Determining the need for additional project requirements and, where applicable, obtaining Department of the Army assistance and approval.
- (3) Issuing necessary directives to subordinate commanders to accumulate the needed supplies and to take action to complete the project requirement.
- (4) Allocating tonnage for the movement of materials to the theater.

f. Among the supply projects which must receive special consideration are those pertaining to—

- (1) Signal communication so that equipment provided for by tables of organization and equipment is not diverted.
- (2) Base installations, including depots, shops, assembly areas, port facilities, hospitals, rest areas, prisoner of war enclosures, army exchanges, and postal systems.
- (3) Railway rehabilitation or construction.
- (4) Highway rehabilitation or construction.

- (5) Office equipment, reproduction equipment, and vehicles for headquarters and other administrative installations.
- (6) Fire fighting equipment.
- (7) Operational equipment needed for special tasks or where unusual losses are expected and cannot be met by normal maintenance, (*Examples:* waterproofing kits, weather-proofed packaging, small boats, materials handling equipment, additional replacement radios, rifles, and other tables of organization and equipment items.)
- (8) Bridging, airfield construction materials, petroleum products storage, and water supply.

g. Emphasis must be placed on the early submission of theater project requirements to the Department of the Army in order that the demands of all theaters may be consolidated for orderly procurement and supply.

151. LEVELS OF SUPPLY. Levels of supply which are authorized to be on hand in the theater are prescribed by the Department of the Army after due consideration of recommendations of theater commander and directives of the Joint Chiefs of Staff (JCS) in terms of number of days of supply. It is necessary to convert these levels into quantities (stock levels) for each item, as described in paragraph 170. If appropriate Department of the Army replacement factors or consumption rates are not available, temporary factors are established, based on experience and anticipated activities in the future.

a. The minimum level of supply is the quantity of supplies (normally expressed in days of supply) required to sustain operations during any reasonably anticipated interruption of supply lines. The minimum level for a theater is prescribed by the Department of the Army and is considered as a reserve to be drawn against when supplies furnished to replenish the operating level (described below) are delayed or are temporarily inadequate.

b. The operating level of supply is the quantity of supplies (normally expressed in days of supply) required to sustain operations between successive replenishment shipments.

c. The maximum level of supply is the maximum quantity of supplies (normally expressed in days of supply) authorized to be on hand. It is the sum of the minimum level and the operating level. The maximum level is stated in Department of the Army directives.

d. To maintain theater stocks between authorized minimum and maximum levels, it is necessary to initiate requisitions in time to keep on order and in transit to the theater quantities of supplies sufficient to cover the number of days required to obtain stock replenishment from the zone of interior. This order and shipping time is established by agreement between the theater commander and the appropriate port of embarkation and is based on the period of time elapsing from the initiation of the requisition to the receipt of the supplies in the theater. Order and shipping time in number of days is converted into

quantities of supplies in the same manner as the levels of supply.

e. The theater requisitioning objective is the total quantity of an item authorized to be on hand and on order in an oversea theater. Quantitatively, it is the sum of the maximum level (days) and the order and shipping time (days). The requisitioning objective for each item stocked in the theater is established and utilized to reconstitute theater stocks as nearly as practicable to authorized maximum levels at the start of the supply period being considered. In actual practice, it is found that the proper use of theater requisitioning objectives and phasing of shipments allows theater stocks to fluctuate normally between the minimum and maximum levels due to issues and receipts of supplies.

f. In order for levels to reflect anticipated demands, the computation of requirements for levels of supply takes into consideration the increases or decreases in theater troop strength and organic composition expected during the period for which the level is established. Such computations for any requisition are based on the projected troop strength applicable to the period, the number of days of supply corresponding to the maximum level, the order and shipping time, seasonal requirements, and appropriate replacement factors or consumption rates.

g. The supply levels prescribed by the Department of the Army for a theater of operations cover the total stocks held in the theater, including those held in army depots. All supplies authorized to be in army supply points and in the hands of using units

are not included in theater levels. The stock level or quantities of an item held in the theater are based on the prescribed supply level and replacement factors or consumption rates which the Department of the Army has approved for the theater.

h. The theater army commander prescribes the levels for the combat zone within which the armies are expected to operate. The Department of the Army rates and factors usually are not applicable here; consumption rates and replacement factors for supplies differ considerably between the combat zone and the communications zone sections to the rear for practically all items. Levels for the combat zone may be expressed in days of supply, or similar terms. The corresponding stock levels are computed, using the appropriate level, the strengths of personnel, equipment in the hands of troops, and the factors or rates which experience within the army has shown are applicable.

i. The communications zone commander, the section commanders and the theater navy and air force commanders similarly may assign levels for sections or installations under their control. The total quantity of an item held throughout the theater, except those in using units and in supply points, does not exceed at any time the quantity which represents the maximum level for the theater.

j. The factors to be considered in establishing stock levels for individual supply installations are as follows:

- (1) The supply level prescribed by the theater army commander for the combat zone.

- (2) The location and mission of each supply installation.
- (3) The normal order and shipping time for each installation, and the regularity or irregularity of resupply.
- (4) The character and relative importance of the combat missions of the tactical units being supported by each installation.
- (5) Armies and similar major commands, in coordination with communications zone, may compute order-delivery time and increase requisitioning objectives accordingly with respect to any class of supplies being requisitioned at established periodic intervals wherever the relationship of actual order-delivery time to the authorized stock level is a substantial factor.

k. The theater army commander constantly makes use of all available information to analyze theater levels, requisitioning objectives, and replacement factors, and recommends to the Department of the Army necessary revisions to insure that current and anticipated demands are accurately reflected at all times.

152. SHORTAGES IN AUTHORIZED SUPPLIES. Shortages in authorized supplies are computed by subtracting quantities on hand from the over-all authorization or approved over-all requirements for the theater or command. In determining on-hand quantities, consideration is given to quantities in the possession of units or installations, in army or similar

stocks, quantities which can be repaired or returned to user or to stocks, quantities in transit, dues-in (quantities already requisitioned), and dues-out (quantities to be expended or shipped out of the command). The over-all authorization includes quantities for initial issue as shown in tables of organization and equipment, tables of allowances or changes thereto, equipment modification lists, replacements or replenishments, projects, and other authorizations such as distribution lists, pertaining to installations. The computed shortages or overages then become the basis for requisitioning, procurement, or disposition of excess.

a. All allowances other than those represented by tables of organization and equipment, tables of allowances and their replacements, unless of a trivial nature, require Department of the Army approval. This approval is required not to deny supply but to insure supply by securing immediate increases in procurement objectives which normally are given a 9- to 18-month lead or, if necessary, to ration scarce articles among all commands.

b. Caution must be exercised within a theater in approving authorization for special issues to prevent dissipation of supplies furnished for replacement and maintenance prior to receipt of the additional supplies needed to reduce the increased shortage.

153. SUPPLY CONTROL. Supply control is the application of policies and procedures, and the use of records, studies, reports, forecasts, and balance sheets to enable those responsible for performing or super-

vising supply functions to balance supply and demand. The combination of policies, procedures, records, studies, reports, forecasts, and balance sheets with which supply control is performed is termed a supply control system. Supply control is applicable to the supply functions performed in the offices of the technical services and at depots and other field installations.

a. The basic elements of a supply control system are—

- (1) The supply policies of the command.
- (2) Stock control records.
- (3) Forecasts of requirements for and availability of supplies at stated periods in the future.
- (4) Studies of all factors affecting the past, present, and future supply status of individual items.

b. Supply control considers all actual and potential present and future demand for and supply of matériel, including unserviceable but repairable items. Stock control primarily is concerned with the quantity of supplies available, their condition, and location. Supply control is concerned with past, present, and future requirements for supplies and the means for filling these requirements.

Section III. PROCUREMENT

154. GENERAL. In general, supplies are procured by a theater of operations either by shipment from military sources outside the theater or by exploitation of resources within the theater. Military

sources outside the theater may be the zone of interior, other theaters, or allies. Examples of local resources which may be exploited are local stocks, agricultural products, manufactured goods, captured matériel, and reclamation of wornout or discarded equipment and supplies. Local resources are utilized to the utmost in order to save time, transportation, and national resources.

155. SUPPLY FROM THE ZONE OF INTERIOR. Supply from the zone of interior on a requisition basis is the ideal method of insuring that an oversea command receives those items and only those items which are required to provide balanced stocks, but the method can be used rarely, if ever, in the initial months of a campaign. Order and shipping time of from 3 to 4 months does not permit shipments to be made during this period in accordance with the requisitions based on actual local requirements.

a. During the first months of operation in a new theater, supply usually is made on an automatic basis from the zone of interior. Troops going into the new theater are accompanied by their initial equipment and supplies for replacement and maintenance for a period of time. The Department of the Army technical services ship additional replacements and maintenance periodically, and automatically (without requisition), in accordance with prescribed directives and prearranged schedules. Project supplies similarly are shipped automatically as required. In addition, supplies to meet emergency needs are called forward by radio, as required. As the over-

sea command progressively gains control over its supply functions, it furnishes to the Department of the Army available supply status information as a basis for modifying the automatic flow of items and securing a more balanced stock position. Such supply status information may vary from simple reports of losses and reports of local procurement to inventory data necessary for complete material status report according to the interim capabilities of the oversea command.

b. As soon as possible, normal requisitioning procedure is established. The date on which automatic supply is cut off is prescribed by the Department of the Army, based on recommendations of the theater commander, in order to insure all supply agencies taking concerted action. This is necessary to prevent a break in supply as well as duplication of shipments.

c. Shortages in certain items may make it necessary for the Department of the Army to exempt certain articles from requisitioning procedure at any time. All theaters may be required to submit status or expenditure reports showing over-all requirements, on-hand or enroute quantities, shortages, or expenditures. The available supplies then are allocated by the Department of the Army and shipped automatically by the chiefs of technical services in accordance with prescribed priorities. Alternatively, the theater commander may be informed of the allocation and authorized to call the articles forward by requisitions which direct shipment to specific ports in his theater.

d. Requisitions for supplies from the zone of interior are prepared and submitted periodically in accordance with the policies and directives of the Department of the Army. All requisitions for the theater, except those for Air Force supplies and equipment, are prepared and forwarded by communications zone to designated ports of embarkation in the zone of interior. Commanders of ports of embarkation are responsible for the filling of these theater requisitions and notifying the theater of their shipment and expected date of arrival at destination. When a technical service within the zone of interior is unable to supply an item by the time requested, the assigned port of embarkation in the zone of interior transmits to the requisitioning agency in the theater a notice of delayed items. This notice of delayed items includes information concerning the expected date of availability for the item involved. In the event that the requisitioned item is not available in the zone of interior, and if for any reason will not be procured, a notice of nonavailability is furnished the requisitioning agency.

156. PROCUREMENT FROM OTHER THEATERS. Procurement from other theaters is undertaken at Department of the Army direction as excesses in these theaters accumulate or as operational emphasis changes.

157. PROCUREMENT FROM LOCAL RESOURCES. Procurement from local resources within a theater of operations is to be utilized fully, particularly when

the theater of operations is overseas or in a location deficient in lines of communications.

a. In procuring items from local resources, due consideration is given to the arrangements made with allied governments and also to the needs of the local population. Local resources to be utilized include services such as transportation, utilities, and facilities, including installations and billets and also supplies available from the indigenous production. The supplies most desirable for local procurement are those involving much tonnage, such as food, forage, fuel, gasoline, lubricants, and engineer construction material.

b. Material resources in hostile territory may be exploited by purchase, requisition, contributions, or confiscation. Purchase is the obtaining of supplies and services in the prescribed manner, utilizing for payment United States currency, the currency of another government, or special military currency. Requisitions are demands made on the inhabitants which differ from purchases in that prices are fixed, usually by the buyer, and the owner has no option in the transaction. Contributions are demands for money. Confiscation is the authorized seizure of property of a hostile country for public use.

c. Procedure for utilization of local resources in the theater of operations is prescribed by the theater commander in conformity with the law, rules of land warfare, and regulations of higher authority. Unauthorized seizure of property is punishable as looting.

d. When the theater of operations is in United States or friendly territory, supplies are obtained either under long-range financial arrangements, or by direct cash purchases. When the theater of operations is in hostile territory, supplies usually are obtained by purchase or requisition.

e. Under the rules of land warfare, many things may be requisitioned. Requisitions may be in proportion to the resources of the country, but of such nature as not to involve the inhabitants in the obligation of taking part in military operations against their own country. Property requisitioned is paid for either in cash or restored with suitable indemnification. Better results are obtained by payment at time of delivery. If this is not done, receipts are given subject to later redemption.

f. Requisitioning of supplies is by specially detailed foraging parties, direct from individuals, or by systematic collection. Foraging usually is resorted to only for the supply of advanced troops or small parties. Usually, best results are obtained through requisitions on local civil officials by the supply services of large units.

g. In order to supervise, coordinate, and control all procurement in theaters of operations, central purchasing agencies may be established, headed by general purchasing agents on the staffs of appropriate commanders. These general purchasing agents perfect arrangements with appropriate officials of local governments for procurement of needed supplies and services to the extent locally available. The general purchasing agent also has the authority

to establish policies and regulations governing direct cash purchases by the supply services. Actual purchases customarily are made by purchasing officers of the several services rather than by the purchasing agency.

h. The civil affairs-military government service assists purchasing agencies in the utilization of local resources, determination of civilian needs, uncovering hidden resources, and in providing liaison with civilian agencies.

158. PROCUREMENT OF SUPPLIES THROUGH REPAIR.

Procurement of supplies through repair is effected through restoration to serviceable condition and return to the supply system for reissue. To be an effective source of supply, the quantities of each un-serviceable item on hand and the repair parts required to place those items in serviceable condition, must be integrated closely into the stock control system. The projected availability of items from this source then can be balanced carefully against procurement from other sources.

159. MARKING AND PACKAGING. a. Marking of supplies and equipment normally consists of the address, color markings, and content markings. The address indicates the destination, period in which shipment is to be made, requisitioning service and class of supply, and requisition number. A coded oversea address contains the complete information necessary to identify a shipment and to indicate its oversea destination. The address serves to direct

the shipment to proper destination, identifies the shipment with the requisition and the shipping documents, and aids in the segregation of supplies. Distinctive color markings on the container for each service aid in making a quick segregation of shipments by services upon arrival at ports of debarkation even with illiterate labor. The content marking, which consists of a brief description of the contents, the weight, and the cubage, is an aid to the depots for the orderly stocking of supplies and equipment. Markings of supplies and equipment for shipment to oversea destinations from the zone of interior, between theaters, and for return to the United States must be in accordance with TM 38-414, and references contained therein.

b. Packaging of supplies for movement to, from, or within a theater is in accordance with current specifications amplified by the technical service concerned. Consideration is given to the identification, handling, protection, and method of shipment and delivery. To assist in identification and storage of property, all packages are marked for easy identification and documentation. Ease of handling takes into consideration facilities for loading and unloading, and the necessity for conservation of shipping space. Where suitable materials handling equipment is available, consideration is given to the use of pallets. In packaging class I, III, and V supplies, consideration is given to the necessity of breakdown to one-man loads. Packaging must insure adequate protection against rough handling, salt water, and the elements en route and in storage.

These factors may preclude the use of glass containers, paper cartons, or paper labels on cans and may require extensive waterproofing of machinery and equipment. Supplies destined to be air-dropped are loaded into standard air supply dropping equipment provided for the purpose. Large packages to be flown in may require disassembly to bring them within the weight and dimensional limitations of the transporting aircraft. If transportation is by animal or human pack-train, the weight and size of individual packages must be appropriate.

Section IV. STORAGE

160. GENERAL PRINCIPLES. General principles to be applied in storage operations concern themselves with the selection of sites for storage heads, truckheads, pipeheads, navigation heads, airheads, and dumps. Depots dealing in wholesale or large quantity storage and bulk issue of supplies normally should not be assigned a mission involving direct retail issue to using units, particularly in the case of class II and class IV. When an exception is necessary, it usually is desirable to organize a separate section of the depot for retail storage and issue. Railheads, truckheads, pipeheads, and navigation heads store small quantities of supplies for direct issue to using units. Airheads are points where supplies are delivered by air and usually are temporary installations storing supplies for only a short period of time. Dumps, as their names imply, are temporary storage points.

161. DEPOTS. Depots are classified as to their organization, type of supplies stored, mission, and command responsibility for their operation.

a. When classified as to organization, depots are classified either as branch depots (stocking supplies stored by a single service) or general depots (stocking supplies stored by two or more services). Branch depots are the type normally used. When general depots are organized, internal structure must provide for branch sections which function in the technical channel of their respective services. Where it becomes necessary or advisable to operate two or more branch depots in the same physical location, the organization of a general depot headquarters is necessary for coordination of resources used in common. The principal functions of a general depot headquarters are housekeeping in nature, and pertain to security, local transportation pools, materials handling equipment pools, labor pools, housing, utilities, space allotment, traffic control, and similar common use requirements. The general depot headquarters, as such, does not enter into the supply chain. It sometimes is convenient in the field to designate a general area as a "maintenance area" within which principal supply and maintenance units serving a designated group of troops are to be located. The designation of such a "maintenance area" is merely a convenient means of controlling the location of new installations, and does not imply the creation of an area command or of general depots.

b. When classified as to type of supplies stored, depots are designated as class I, class II, class III,

class IV, or class V. Since the organization and functioning of the supply system vary widely as between the various classes of supply, rarely will any depot store more than one of the classes of supply except classes II and IV.

c. Communications zone depots may be classified further as to *location* (advance, intermediate, or base, depending upon their location within the communications zone) and as to *mission* (as master, issue, filler, base, or key).

- (1) A master depot is a depot that has been delegated responsibility for accounting for and controlling distribution of all supplies of a designated class or type. A master depot becomes the theater stock control point for the designated items.
- (2) An issue depot is assigned responsibility for storing supplies within prescribed levels. Issue depots do not necessarily carry complete stocks; items stocked normally are related directly to the needs of the specific troops served. It has responsibility normally for issuing supplies to meet the needs of other depots, local issue sections of depots, and supply points.
- (3) A filler depot usually is associated with a base or master depot and may be operated as a subsection thereof. A filler depot normally stocks supplies of the same type and class as the associated base or master depot, in bulk quantities and original packages. Its supplies normally are ordered forward

as required to maintain stocks in issue depots but, in appropriate cases, supplies may be ordered shipped direct from filler depot to supply points or local issue sections of depots.

- (4) A base depot, normally located in a base section, is assigned responsibility for receiving, classifying, and storing supplies shipped from the zone of interior or from local manufacturers, for serving as a warehouse to clear ports, for storing part of theater stocks, and for replenishing supplies of filler depots. A base depot may be used for the storage of theater reserves in large quantities, and the distribution of such supplies in bulk to territorial administrative commands and armies.
- (5) Key depots, normally master or base depots, physically store and issue available theater supplies of a single critical or important item. The designation is not used without an associated list of the item or items so stocked, as "key depot for tires," or "key depot for drugs." Requirements of dispersion for security in any area susceptible to air or other attack cause the use of key depots to involve a calculated risk. Under most circumstances, the use of a master depot with associated filler depots will accomplish the same purpose.

162. COMMUNICATIONS ZONE DEPOTS. Control of communications zone depot operations normally is decentralized to the communications zone sections in which they are located. Branch depots are the responsibility of the technical services of the communications zone section in which they are located. Each service has appropriate troop units organized and trained for depot operations.

a. General depots are the responsibility of the commander of the communications zone section in which they are located. They are organized into supply sections corresponding to the technical services represented. The depot commander is designated by the commander of the communications zone section and operates directly under him. The commander of a general depot coordinates the local activities of the several supply sections in such matters as the assignment of storage space, use of the common labor pool, materials handling equipment, utilities, transportation, and safety measures, leaving to the depot supply section commanders the internal operation of their respective supply sections as directed by the technical service of the communications zone section.

b. Each technical service in the communications zone operating through the technical service in the communications zone section is charged with the maintenance of stocks at the prescribed level and furnishing the necessary personnel for the functioning of depot sections. Records indicating type, location, and status of supplies must be maintained by

each depot. Reports on these records serve as a basis for operation of the stock control system.

c. Each technical service of a communications zone section having supplies at a general depot is represented by an officer responsible for receipt, storage, care, maintenance, and issue of all supplies pertaining to his service; operating control of personnel assigned to his section; supply records pertaining to his service; supervision of loading and unloading of his supplies; marking of all shipments; necessary arrangements with the transportation service for shipments; and timely transmission through prescribed channels of information with respect to shipments.

d. Whenever a shortage is indicated or anticipated in any article of supply, or the necessity arises for special control of expenditures or reduction of allowances, the officer responsible brings such condition to the attention of the communications zone section technical service. The latter takes the necessary steps to relieve the shortage and makes suitable recommendations for any articles requiring special control of expenditure or reduction of allowances.

e. Troop units to operate communications zone general depots are provided by a headquarters, base general depot, to which are added appropriate cells from composite tables of organization, base depot units for the services represented, and labor, transportation, medical, and utilities units, as required.

163. ARMY DEPOTS. Army depots are installations under army control where supplies are received from the communications zone or from exploitation of

local resources in the army area. Army depots normally are branch depots. The term "depot" includes any installation which is in fact a depot although bearing another title, such as vehicle and artillery park. The principal differences between army and communications zone depots lie in the fact that army depots usually are much smaller, stock fewer supplies, and are moved more easily.

a. Army depots have the mission of receiving, storing, and issuing supplies for the army. Normally, bulk issues are made by army depots to army supply points, but issues may be made direct to nearby maintenance and using units. Army depots are operated by depot companies of the technical services especially designed to operate these smaller, semi-mobile type installations.

b. Army railheads, truckheads, navigation heads, and maintenance units are army supply points for the storage of supplies received from army depots or from the communications zone for direct issue to using units. Army normally maintains 1 or more days' reserve at or near each class I, class III, and class V supply point. Ammunition supply points are known as ASPs.

c. Airheads and dumps perform emergency storage and issue functions.

164. AIR DEPOTS. a. Air depots are utilized in the zone of interior and in oversea theaters to provide maintenance and supply facilities for air force equipment and supplies. Army or communications zone supply and maintenance installations are utilized

for supplies which the technical services furnish the air force. Occasionally, air depots may stock common supplies which have been drawn in bulk from army or communications zone depots for issue to air force units. In cases where isolated army or communications zone troops are located close to such air depots, and supply from army or communications zone depots would be difficult, arrangements may be made for the air depots to store and issue Army supplies for these isolated units.

b. Air force depot unit (army) provides third echelon supply and maintenance for air force procured equipment being used by army units. The normal basis of assignment is one per army.

165. PHYSICAL INVENTORIES. Physical inventories of depots and installations are made to ascertain actual stock on hand and to correct stock record cards.

a. This inventory includes every item in the depot, and where no stock record or locator record is maintained for an item inventoried, appropriate records are established. Unserviceable items are disposed of through repair or salvage channels. Depot stocks in permanent depots and other supply installations should be inventoried as required by current directives. A complete inventory is taken either at a specific time, or on a continuous cycle inventory basis as prescribed by the technical service (communications zone or army), and must be so scheduled as to assure that every item is counted physically within the period.

b. Special inventories are taken whenever there is a warehouse refusal of a particular item (when a warehouse within a depot cannot supply the item) and the stock record card indicates quantities on hand available for issue. Special inventories are made when the stock record card shows a zero balance on hand. Bulk stocks are sampled to verify the accuracy of the package count. Section commanders are responsible for periodically checking compliance with inventory directives.

c. Depot stock status reports are prepared by all depots and are submitted direct to the technical services, communications zone or army, copy to technical services, communications zone section. Information on depot stock status reports ordinarily includes, but need not be limited to, balances on hand, issued, dues-in, and dues-out (back orders).

d. Stock status reports are submitted as required by the technical services of the communications zone sections and armies to maintain a complete, centralized stock control system.

e. Depots will maintain accurate locator systems, lot and serial number record on designated items, and bin cards in order to facilitate identification and inventories. Standard nomenclature and stock list numbering on these forms are essential to maintenance of stock records. Complete inventories of small items are not required—only spot checks of individual items. Bulk items, class V supplies, and regulated items are reported to army or communications zone section at established periodic intervals, and consoli-

dated by the technical service of army or section for submission to the technical service of the communications zone. Copies of consolidated status reports on class V and regulated items normally are forwarded for information by armies to army group and to technical services of theater.

Section V. DISTRIBUTION

166. DEFINITION AND BASIC PRINCIPLES OF DISTRIBUTION. a. Distribution includes those operations incident to the movement of supplies within a command. It includes initial distribution between installations, issues to troops, redistribution, and the final disposition of supplies from the time an article first is introduced into the supply system of the command until it is transferred to another command or until the article is consumed, abandoned, or disposed of as excess, surplus, or salvage. The supervision of what, how many, when, and where supplies are to be stored, moved, issued or otherwise disposed of to meet the desires of the commander, is a distribution function. It is a function which can be performed properly only with a full knowledge of the plan of the commander, of the availability of supplies, and of the needs of the using units, and by the closest collaboration between requirements, storage, and transportation agencies. Distribution must not be confused with the technique of warehousing which is a storage function, or the technique of the physical movement of supplies which is a transportation function. Distribution operations include the—

- (1) Issuing of directives or the establishment of policies and procedures under which supplies are moved through the supply system, including assignment of storage and issue responsibility.
- (2) Establishment of missions for supply installations or organizations.
- (3) Establishment of levels of supply.
- (4) Provision and supervision of stock control procedures by which levels are maintained and the mission accomplished.
- (5) Provision and supervision of procedures for requisitioning, issue, loan, sale, transfer, return, or other disposal of supplies.
- (6) Maintenance of accurate stock records for current operations as well as for planning.
- (7) Conduct of necessary inspections to insure compliance with and improvement of procedures.

b. The basic principles of distribution include the following:

- (1) The supply distribution system must be flexible.
- (2) It is desirable to have on hand, in the rear of combat units, sufficient supplies to enable replacement of each day's expenditure prior to the commencement of the following day's operations.
- (3) Available supplies should be located so that over-all delay in meeting approved demands is minimized.

c. The principle of flexibility indicates that the bulk of reserve supply should be held in rear or intermediate areas.

d. Supplies must be moved promptly from ports to prevent congestion of port areas. The first step in supply distribution normally is from ports to communications zone base or filler depots. At base or filler depots, supplies are classified and picked up on stock records before being moved forward. Where requisitions on the zone of interior provide that intermediate or advanced depot markings are to be placed on packages, the first step may be to such depots. It is fundamental, however, that port clearance be insured.

e. Substantial stocks are maintained in intermediate (key or filler) depots convenient to issue depots. Movement from base to intermediate depots normally is the second step.

f. Minimum balanced stocks of essential items are maintained in issue depots close to points of consumption. Movement to these depots normally is the third step. Circumstances such as shallowness of the communications zone or economy of transportation may make advisable the elimination or bypassing of the second step or the consolidation of the second and third steps. Usually, in amphibious operations, it is necessary that the communications zone be bypassed and that supplies flow direct from the port of embarkation to the combat force depots.

g. In order to have on hand near combat units sufficient essential combat supplies to permit prompt replacement of each day's expenditures, it is neces-

sary for the communications zone to establish issue depots immediately in rear of each army, for the armies to establish depots maintaining adequately balanced stocks, for the air force to establish means for direct support of air combat units, and for the armies to provide distribution of supplies to army supply points within easy reach of the unit transportation of its subordinate units. Anxiety for certainty of supply creates a desire to accumulate large stocks in combat areas, but need for flexibility in the supply system dictates a low combat area stock level to enable combat units to meet rapidly moving situations and to maintain safety of supplies from capture, destruction, or abandonment. For each operation, a continuous estimate of the logistical situation made in conjunction with the tactical situation indicates the level of supplies to be stocked. The level of supplies distributed to forward combat areas is kept to a minimum, but must be increased in direct proportion to prospective delay in deliveries.

h. The degree of echelónment is affected by the characteristics of the various classes of supplies. Some classes primarily are tonnage problems, while in other cases the primary consideration is one of specific items.

- (1) Classes I and III are both an item and a tonnage problem. This is true particularly of "A" and "B" rations and lubricants. These classes require a full pipe line with comparatively uniform input and reasonably automatic flow. While reserves of these supplies are echeloned laterally and

in depth to handle possible break-downs in the system, supplies for retail delivery bypass intermediate holding points and move through the pipe line to points of delivery at the required rate.

- (2) Class V represents both a tonnage and specific item problem and the primary requirement of distribution is to assure early identification of stocks. A somewhat larger echelonment forward for this class than for classes I and III therefore is indicated.
- (3) Classes II and IV essentially are specific item problems. The primary consideration is one of stock control to insure that unfilled demands do not exist at one point while unknown stocks accumulate at another. Since balanced stocks cannot be maintained at all points of storage and as there is no uniformity in the problems encountered among the various services as to maintaining balanced stocks, *slow moving* items of these classes normally are stored only in key, base, and filler depots to permit expeditious assumption of centralized control and distribution forward on a *special order* basis. Reasonable stocks of fast moving items are echeloned laterally and forward.

- i. Distribution of items in short supply involves a careful consideration of two applicable concepts: the one, that when any item is scarce, available stocks

are held sufficiently far back to permit shipment in any direction to meet emergency demands; the other, that since no item is of value while in storage, limited supplies are moved forward quickly to permit rapid and maximum use at the point where demand exists.

j. There are two general methods of distributing supplies to using units distinguished by the point at which supplies are delivered to them, as follows:

- (1) In *supply point distribution*, delivery is made to using units at the supply point (depot, railhead, truckhead, navigation head, airhead, pipehead, distributing point or maintenance unit) and supplies are hauled to the unit bivouac, dump, or distributing point in transportation furnished by the using unit.
- (2) In *unit distribution*, delivery is made to using units at the bivouac, dump, or distributing point of the unit in transportation furnished by a higher echelon.

Supply point distribution generally is used by armies and divisions in making supplies available to their subordinate units. Unit distribution normally is used by the communications zone in delivering supplies to armies and generally is used by regiments in delivering supplies to companies.

k. Depots in the theater of operations habitually ship supplies to supported depots, or supply points, and make the necessary arrangements for transportation. No prescription for the furnishing of trans-

portation is required in orders unless this normal procedure is changed.

167. COMMUNICATIONS ZONE. The adequate and expeditious supply to armies and other supported troops, and to troops or organizations in the communications zone, governs the supply mission or missions of any particular depot.

a. It is essential, in order to provide direct and prompt supply to armies, to establish filler or issue depots immediately in rear of each army, and to move them forward with the advance of the armies. The principal quantities of theater army stocks are maintained in rear or intermediate areas. Base depots are essential to provide prompt clearance of the ports. Key depots may be established when the nature of supply of specific items is such as to require centralized storage and control, or master depots, with associated filler depots, may be used for the same purpose. Physical limitations may make it necessary for a single depot to perform multiple missions.

b. Replenishment, to maintain designated levels of supplies in the communications zone depots, is accomplished by requisitioning or by rendering stock status reports.

c. Retail supplies for communications zone troops and other designated troops in the communications zone area are distributed through the communications zone depot system, but normally are issued through separate depot local issue sections or separate supply points.

168. ARMY COMMANDER. The army commander has responsibilities for the distribution of all supplies which are required for forces in the army area. He prescribes locations for army depots and army supply points and determines the level to be maintained in each installation (within the over-all level approved by army group and theater), based on the corps commander's recommendations. Division recommends supply point locations to corps so that adjustments can be made to select the most desired locations to serve all units of the corps. The bulk of supplies for daily issue to combat units are placed in army supply points. Sites are selected which give access to the best roads leading to the front, and which are within the range of operation of the unit trains of divisions and of corps and army troops.

a. Army depots are located farther to the rear than are the army supply points. They contain reserves of supplies designed to permit operations to continue between deliveries of supplies from the communications zone, to meet unexpected demands, and to meet the constant and often rapid changes in the military situation.

b. Ammunition comprises one of the greatest masses of supplies to be moved to combat troops; hence, class V supply points are given special consideration in the selection of locations in the forward areas. The number of class V installations established by the army is governed by the location of combat troops, by the available lines of communications and by the type of installation adopted (supply point or depot). Ammunition supply points are

located so that when one supply point is lost, the ammunition supply of a major unit is not totally disrupted. In selecting the location of ammunition supply points, the following factors are considered: convenience to troops being served, security from observed artillery fire, adequacy of the road net, availability of the area for dispersion, means of concealment, and type and quantity of ammunition to be stored.

c. Rations are stocked at army class I supply points located within the range of operation of the trains of using units. The exact number and size of supply points to be established depend on the number of troops in the area, their means of transport, the rail or road net, the facilities at the supply points, and the tactical situation.

d. Army class III supply points are established at convenient locations on main supply routes, thus enabling motor vehicles sent to the rear for any purpose to be filled with gasoline and oil on the same trip.

e. Engineer classes II and IV supply points may contain heavy stocks of fortification, beach, bridge, and road materials. At least one such supply point is established per corps. It is located as far forward as the situation permits.

f. An army medical depot normally is located in the army maintenance area where balanced stocks are maintained. Fast moving items are placed in the medical supply points located well forward and easily accessible to evacuation hospitals and divisions.

g. Army ordnance supply points normally are an

integral part of maintenance units supporting using troops. They are resupplied by the army ordnance depot which carries the bulk of army classes II and IV ordnance supplies; is located close to the army rear boundary; and is accessible to a main traffic route.

h. Army remount depots are located in the vicinity of veterinary evacuation hospitals in order to receive therefrom rehabilitated animals for return to duty.

i. Essential combat reserves of other classes II and IV supplies are distributed either through army branch depots located in the army service area or, when recommended by the corps commander, corps service units provided with small stocks of fast moving item, especially signal and medical items.

j. Delivery of supplies in the army area is accomplished by utilizing communications zone, army, air force, and unit transportation. Normally, the communications zone delivers all classes of supplies, as requested by army to army depots, or to supply points designated by the army. If the supply points are within the reach of the using units, further distribution is made by use of unit transportation. If the supply points are beyond the reach of using units, transportation available to the army is used to advance supplies to points accessible to unit transportation. In emergencies, the stocks of army supply installations are replenished by sending army transportation direct to communications zone depots. When supplies must be distributed by air, communi-

cations zone arranges for supplies to be distributed to airhead by air force air transportation.

169. AIR FORCE SUPPLY DISTRIBUTION. **a.** Supplies received at ports of debarkation are distributed to air force depots by communications zone transportation agencies.

b. Items of supply procured, stored, and issued by the air force for the use of army units are distributed through air force depot units (army).

170. STOCK CONTROL. Stock control has for its objective the management of supply operations so that effective distribution can be accomplished with a minimum of supplies in the distribution system.

a. Stock control develops and enforces those procedures by which—

- (1) Each using unit or distributing depot is protected by having on hand an adequate but not excessive quantity of supplies to meet anticipated needs.
- (2) Reserves are set up to meet emergencies.
- (3) Requisitions or calls are filled speedily with a minimum number of warehouse refusals or back orders.
- (4) Excesses are uncovered quickly and returned to distribution channels.
- (5) Shortages in stock levels are discovered immediately and met before the using units are affected.

- (6) Surplus, obsolete, unstable, or unrepairable items are located and disposed of so they cannot clog the distribution system.

b. A stock control system is established within each theater to reflect the stock position of each item within the theater. The chiefs of technical services under supervision of the communications zone commander operate the system for supplies for which they have storage and issue responsibility. They integrate data on these supplies held by air force or army troops with data pertaining to supplies under communications zone control. Supplies in supply points or in hands of using units are not included in stock control procedures. Commanders establish and supervise stock control procedures within their commands.

c. Stock control procedures must produce information as to total stocks on hand, theater dues-in and dues-out, receipts and issues, authorized theater stock levels, requisitioning objectives, quantities in transit, items unserviceable but repairable, items suspended and impounded, and other pertinent data at a central stock control point supervised by the technical services of the theater and the theater air matériel command. These central records are used as a basis for procurement, requisitioning, distribution of incoming shipments, redistribution of unbalanced stocks, determination, declaration of excesses, or disposal of surplus, disposition of obsolete items, supervision of repair operations, and revision or determination of replacement and maintenance factors.

d. Stock control is accomplished by—

- (1) Determination of supply levels for each supply installation.
- (2) Computation of stock levels by considering replacement factors and experience together with the supply level authorized.
- (3) Maintenance of stock levels by adequate and timely replenishment.
- (4) Revision of supply levels, replacement factors, stock levels, requisitioning objectives, and reorder points in accordance with accumulated experience and anticipated requirements.

e. Stock levels differ from supply levels in that stock levels are stated quantitatively in terms of units of measure such as *each, quart, pound, 2-ounce can*, etc.; supply levels are expressed in *days of supply*. Stock levels are the objectives which replenishment action strives to attain. Maximum stock levels are never exceeded, and diligent effort must be made to keep the stock on hand above the minimum stock level by the timely placing of requisitions and aggressive follow-up action on previous requisitions. Command discretion must be used if levels fall to the minimum level in order to insure that using units continue receiving their essential requirements with due regard to the fact that quantities on hand are below minimum desirable levels. If levels fall below the minimum level such that a shortage exists or will exist before replenishment can be made, items must be regulated.

f. Stock levels are computed by each supply in-

stallation for every item it stores and issues. The replacement factor used as the basis for determining the estimated daily issue is prescribed by either the authority prescribing the supply level or higher authority.

g. The efficiency of stock control operations is dependent upon review of theater central stock control records, review and revision of installation records, accurate inventories, provision of means to conduct stock control operations, inspection, and instruction throughout all commands. Speed and accuracy of these operations must be stressed at all levels. Inaccurate records or those received too late to reflect current status of stock levels greatly hinder the efficiency and may undermine the very mission of the stock control system.

h. The communications zone commander prescribes periodic reviews of central stock control records to determine the stock position of all items within the theater for the purpose of maintaining stocks as nearly as possible within the operating range. Due consideration is given to stocks on-hand, stocks due-out, and stocks due-in from the zone of interior, other theaters, and theater procurement and repair facilities. It is emphasized that information on dues-in from theater procurement is utilized only when firm delivery schedules are available. As a result of this review, positive action is taken to replenish theater stocks by the initiating of requisitions on the appropriate port of embarkation in the zone of interior, or other source of supply. The quantity required for replenishment is the difference

between the theater requisitioning objective and the total stock available (on hand, including quantities in theater ports not yet taken up on depot records, plus dues-in, and minus dues-out).

i. Whenever stock levels appear to be either inadequate or excessive, the installation commander informs the authority which prescribed the supply level of all pertinent facts and recommends a revision by changing either the maximum supply level or the replacement factor. The revision of levels or replacement factors of seasonable items must be considered carefully with regard to their fluctuating demand. Revisions are made when approved by the proper authority. Routine revisions, consisting of adjustments and recomputations due to changes in troop strength or in the number of major items in the hands of (or authorized to) troops being supported, are made by the installation without approval of higher authority. However, such revisions are reported to all interested agencies.

j. Accurate inventories are essential to stock control operations. Records which are not backed by physical stocks do not place supplies in the hands of troops. Excess physical stocks not reported withhold supply or require duplicate shipments and procurement to accomplish supply. (Also see par. 165.)

k. The provision of adequate means of communication, especially signal communication (teletype or facsimile) and business machines, simplifies operations and permits the consolidation of current stock control data. The use of less efficient means demands

the maintenance of higher stock levels and in many cases denies urgently needed supplies.

l. Inspector-instructors are necessary to the rapid establishment of an effective stock control system. They insure the correct interpretation of procedures, insure uniformity, and obtain information by which procedures may be perfected. Responsible superior headquarters provide teams especially trained in the inspection and instruction of stock control points, depots, and other installations.

m. A realization of the importance of stock control procedures and supply discipline must be instilled in all command and operating personnel. Efficient operations in a system designed for close control of almost a million different items and involving millions of tons of supplies are dependent on a thorough understanding of the problems connected with such a system. They are dependent on the recognition of the fact that improvements in communication and stock accounting procedures prevent handling unneeded supplies and release tonnage allocation for needed items or for other purposes.

171. DOCUMENTATION. Documentation includes those procedures for the preparation and maintenance of records by which supplies are identified as to quantity, location, or destination of items during the entire time they are in the supply system. Efficient documentation gives accurate information of supplies due-in, on-hand, or due-out, as well as providing information concerning the physical location

and condition of quantities of specific items and their routing, if in transit.

a. Among the more important procedures pertinent to documentation are those providing for requisitions and shipping papers. Proper procedures of marking and packing, inventorying, and stock control assist documentation.

b. Documentation of supplies received from the zone of interior is initiated with the shipping instructions provided by the communications zone, the oversea supply division at the port of embarkation, the Department of the Army chiefs of technical services, or the other agencies which may initiate the shipment. This documentation is included on the requisition or in the directive for the shipment. The port of embarkation is responsible that packages are forwarded with proper manifesting and stowage plans as well as adequate information as to contents and destination. In the communications zone, each shipping agency is responsible that each shipment is routed properly and identified, and each storage installation is responsible for knowing what items are on hand and where they are located in the depot. Large sorting or classifying sheds and slow processing or requisitions within a depot indicate faulty documentation somewhere in the system.

c. Where an installation is shipping articles forward along more than one channelized supply route by either rail or truck, it is essential that information as to destination and contents of the loads be provided for each vehicle in addition to the markings on

the separate packages. These instructions, preferably written, are important means by which traffic control personnel insure supplies reaching the army depot or other agencies to which dispatched. Experience in war indicates that, in preparing for a campaign and during its early phases when forward levels are still low, special attention must be given to this type of documentation.

d. Requisitions, together with availability and nonavailability reports, are essential steps in documentation.

172. REQUISITIONS. a. Upon receipt of requisitions, the supply agency determines the availability of the items required. For any item not available for shipment or issue in the usual time, a notice is sent to the requisitioning agency stating the date of expected availability, or that the items will not be available.

b. Requisitions normally are filled by the supply agencies closest in the chain of supplies to the troops needing the supplies. If such an agency cannot fill a requisition immediately, it furnishes what is on hand, extracts the unfilled items to the next higher supply officer and notifies the headquarters from which the requisition was received when shipment may be expected. All echelons of supply maintain a back order system which reflects completely the status of unfilled items. This includes total quantities due-out as well as quantities due-in on each unfilled requisition.

173. FORM OF REQUISITIONS. The form of a requisition or request may be a complete, written formal requisition on a specified form, a call against a credit, a status or expenditure report, an informal request in the form of a message transmitted by any means of signal communication, an oral request, an empty gasoline tank, or an estimate made by the supplying service without any request from the using troops. Each formal requisition includes articles issued by only one supply service, thereby eliminating the necessity for processing and extracting by several supply agencies. When avoidable, articles of different classes are not listed on the same requisition. Normally, all items that are on the theater regulated item list must be on requisitions separate from non-regulated items. A call against a credit is the form usually used to order shipments of ammunition from the depot where the credit has been established to army depots and supply points. A status report is a report in which the status of specified items is listed at the end of a specified period. An expenditure report is similar to a status report except that it lists the expenditure of specified items for a specified period. When authorized, status reports or expenditure reports may be treated as requests for issue without further requisition. Informal requests in the form of messages (written or oral) are used in fast moving situations when the element of time precludes the use of more formal methods. Normally, an empty gasoline tank is the only requisition needed for refilling at gasoline and oil supply points. In the absence of a request of any kind, supply agencies

may estimate needs and furnish supplies to using units in circumstances that make it impossible or impractical for using units to make their needs known.

174. SHIPPING PAPERS. Shipping papers include shipping documents, manifests, and bills of lading.

a. Shipping documents for supply shipments are prepared by depots, or manufacturers, and forwarded through ports of embarkation to the theaters, thus notifying them of the supplies that will be received. The supplies are identified with the requisition by means of a requisition number which is a part of the prescribed oversea address. The documents are used as vouchers for debit and credit entries on stock record cards. Shipping documents also are used for inter-theater and return shipments to the United States. This document also may be used by theater commanders for intra-theater shipments.

b. Manifests include supply and transportation manifests which are prepared by ports of embarkation in accordance with the provisions of TM 38-412. The supply manifest furnishes the consignee with detailed information regarding all items loaded on the vessel. The transportation manifest, normally used only by transportation agencies, furnishes a general description of the supplies. The manifests, together with the stowage plan, facilitate the location of the supplies on the particular ship. Similarly, air cargo manifests prepared at aerial ports of embarkation serve the same purpose for shipments routed by air.

c. Bills of lading are prepared by the shipper for supplies transported by rail or highway to furnish the domestic consignee with the amount and a general

description of the cargo, its routing and date of shipment, and the number of the car in which the supplies are loaded. The bill of lading, when completed by the consignee, serves as a basis for payment of the carrier charges.

175. ISSUE. **a.** In general, it is a basic principle that authorized supplies are issued to a using unit in accordance with its expressed needs unless conditions of operation or availability of resources dictate other procedures.

b. Using units may make their needs known through formal requisitioning procedures, by strength reports, vehicle strength reports, status reports, expenditure reports, or other similar forms. If supplies are available these reports have the force of requisitions. If items are in short supply, the reports form the basis for the allocation or shipment under priorities as the items become available.

c. Where the need cannot be made known by item, it is necessary to arrange for automatic shipment depending upon the supply installations in the rear to make the best estimate of the quantities and items needed. Since this procedure cannot prevent over- or under-issue in the event the factors used are not consistent with replacement factors and consumption rates in the theater, the using units must be especially alert to report over- or under-issues.

d. Major items in short supply normally are included on a regulated item list and are issued only upon approval of the headquarters retaining control of issue or in accordance with allocations, credits,

or priorities established for the using unit. Other items in short supply are handled by the technical services in a manner paralleling the preference given to regulated items.

e. Nonregulated items not in short supply are issued on request of the using unit (when approved by the next higher headquarters in the administrative chain) in the order in which the requests are received, usually without question as to the amount of the items requested except in case of apparent error or unreasonableness.

f. Supply procedures, including channels and schedules for submission of requisitions and reports and providing for issuing procedures of all classes of supply, must be established by the supply agency in consultation with the army or other requesting agencies.

176. REGULATED ITEMS. Regulated items are those articles which are scarce, costly, of a highly technical or hazardous nature, or which, for some other reason must be controlled closely during and after distribution.

a. The Department of the Army periodically publishes regulated items lists listing those items over which it desires to exercise control. Theater army commanders and field army commanders, on the recommendations of subordinate commanders, similarly publish regulated items lists which include those articles on the Department of the Army lists which are applicable to their commands and those additional items over which they desire to extend control.

b. Major commands, such as armies, and communications zones, submit separate requisitions for each service covering those items on the theater regulated items lists which are needed for the period. Such requisitions usually are submitted every 10 days or multiples thereof (that is, every 20 days or every 30 days).

c. Each theater technical service apportions between major commands the available supply of its regulated items within the theater as reported by the technical service, communications zone. Such apportionment is governed by and is consistent with the priority system established in current theater instructions and directives pertaining to the issuance of regulated items of supply. Major commands are advised of the quantities of such items apportioned.

d. Within the major commands, the control of regulated items is the responsibility of the commander, exercised through the supply services of the command.

177. CREDITS. Credits are issued by headquarters making apportionments to provide commanders with definite assurance that the supplies are available to them, and to guide supply agencies in their issue. The establishment of credit completes the command action necessary at the headquarters assigning the credit, and thereafter such supplies are subject to call or draft by the commander to whom the credits are given. Credits usually are established in designated depots and for a specified period. At the end of the period named, all credits against which

calls have not been received revert to depot control. Credits seldom are used within the combat zone because of the extensive administration required. When needed, rationing or other type of restriction may be imposed as a substitute. Credits are not required when supplies are available in adequate quantities.

a. Calls by an army against credits in communications zone depots may be made directly on the depot holding the credited item, or on the advance section, as agreed. The appropriate service representative takes the necessary action to secure the shipment of the supplies in compliance with priorities approved by the theater commander. Calls made orally are confirmed by written memorandum.

b. Supplies in army, or air force depots or supply points, assigned in credits to subordinate units, are drawn as required by the subordinate unit which sends transportation accompanied by an informal requisition to the proper supply point.

178. CLASS I SUPPLY PROCEDURE (fig. 20). a. Under the normal method, class I supply in the combat zone is accomplished by the movement of class I supplies, primarily rations, from communications zone depots, through army class I installations, through division or corresponding unit distributing points to the using troops, and finally to the individual soldier. The army class I depot ship class I supplies to the army class I supply points in army transportation. The depots, in turn, are refilled to their prescribed levels by supplies shipped from the

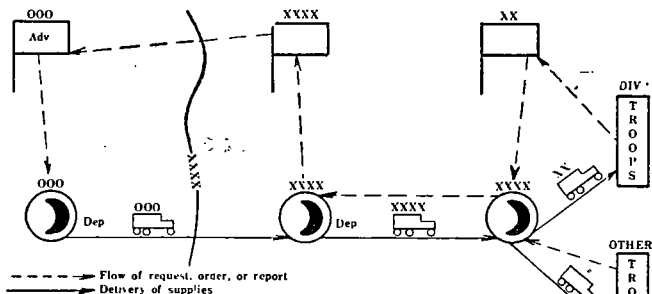
communications zone issue depots in communications zone transportation. Divisions draw from the army supply point and haul the bulk rations to distributing points where they are broken down and issued to using units, such as regiments and battalions. The field trains of the using units haul the rations to the field train bivouacs and, in turn, deliver them to the kitchens.

- (1) The instrument for requisitioning class I supplies is the daily ration request which includes information concerning strength and types of class I supplies desired.
- (2) Corps troops, army troops, air force units, and communications zone units in the combat zone normally are grouped by the next higher headquarters to facilitate drawing rations in bulk in the same manner as divisions.

b. Under an alternate method of class I supply in the combat zone, issues may be made directly from communications zone issue depots to army supply points. Troops within the combat zone send reports of strength to division or similar unit quartermasters or supply officers who consolidate and forward them as the daily request to the army quartermaster. The army quartermaster requests the communications zone issue depot, through the communications zone advance section to issue the supplies. Using communications zone transportation, advance section issue depots make deliveries daily in accordance with army's request to the army supply points. This method might be used when warfare is static and a

daily train can be used direct from the communications zone issue depot to the army supply point.

c. In the communications zone, sections of depots which separate local from wholesale class I issue activities or separate supply points are designated to serve particular areas. Within these areas, units grouped together for class I supply purposes submit ration requests for a 5- to 10-day period and draw directly from the depots or supply points without submitting requisitions or requests through an intermediate agency. The depot sections or supply points are reconstituted to their prescribed levels by direct requisition, by submitting status reports, or by submitting issue reports to supporting depots.



¹ Divisions and similar organizations normally consolidate requests, draw supplies, and transport them to a division distributing point from which issue is made to subordinate units. Alternatively divisions may arrange for subordinate units to draw direct from army supply points.

² Army, corps, and Air Force units submit requests and draw directly from army supply points. Frequently it is advantageous to group units for supply purposes.

Figure 20. Diagram for distribution of class I supplies.

d. Rations by types and items of class I and special issue are described below.

(1) Rations for field service are prescribed by

the Department of the Army. They are identified for the purpose of requisitioning and as a guide to their use as follows:

- (a) *Ration, field, type A.* This is the basic field ration. It consists of components prescribed in current Department of the Army directives and normally contains a maximum of perishable items. This ration is used whenever and wherever circumstances permit.
- (b) *Ration, operational, type B.* This ration corresponds as nearly as practicable to the Ration, field, type A, but incorporates nonperishable foods in lieu of the perishable components. It is designed for use when it is not possible to provide perishable foods but whenever and wherever kitchens are available. This ration represents optimum subsistence under such conditions.
- (c) *Ration, small detachment.* Rations in this category consist of precooked or prepared food which may be eaten hot or cold. This ration is designed primarily to provide for small group feeding, but may be used to a limited extent for organizational feeding. It is used only in those situations where it is not practicable to use the Ration, field, type A or the Ration, operational, type B, and where the use of individual rations is not mandatory.

- (d) *Ration, individual, combat.* Rations in this category consist of packaged pre-cooked or prepared foods which may be eaten hot or cold. The principal purpose of this type ration is to provide subsistence for troops in combat when cooking facilities cannot be made available. These rations should not be used for more than 7 successive days.
- (e) *Ration, individual, assault.* Rations in this category consist of precooked or prepared foods which may be eaten hot or cold. The primary purpose of this type ration is to provide food for the initial assault phase of combat. This type ration is packaged so that it may be carried by the individual soldier. These rations should not be used for more than 1 day.
- (f) *Ration, individual, survival.* Rations in this category consist of precooked or prepared foods especially designed to meet survival conditions with minimum bulk and weight. This type ration is an item of personal equipment for all military personnel participating in active operations by land, sea, or air, and is intended to be carried on the person as a means of reassurance that, all other means failing, the soldier has something upon which to rely. It is especially packaged and enclosed in a manner suitable for attachment

to the cartridge belt or for easy carrying in the pocket of the field jacket.

- (g) *Sundries pack.* This pack is a supplement to the Ration, field, type A and Ration, operational, type B and is made available to the commanders of field forces for use in theaters of operation. It is composed of items necessary to the health and comfort of troops such as essential toilet articles, tobacco, and confections that normally are obtainable through the Army Exchange Service. The purpose of the sundries pack is to provide for the issue of these items in the zone of operations prior to the establishment of adequate army exchange or comparable sales facilities. In an emergency, when the pack is not available, equivalent items may be transferred from army exchange stocks. This pack, or its components, is not issued concurrently with Ration, small detachment, Ration, individual, combat, or Ration, individual assault.
- (h) *Spice pack, kitchen.* This supplement is designed to provide spices and condiments for 1,000 rations of the Ration, field, type A or Ration, operational, type B. It is used to facilitate break-down and issue in the field.
- (i) *Special items pack, hospital.* This supplement is designed to provide special nour-

ishment such as fruit juices, soups, milk, etc., for hospital patients.

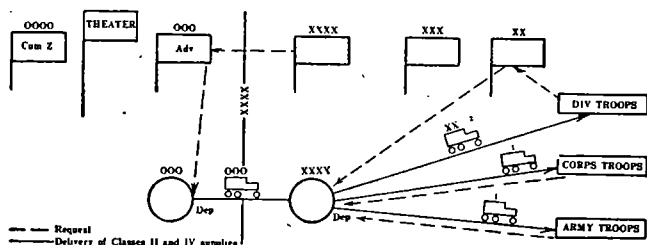
- (j) *Special items pack, aid station.* This supplement is designed to provide special nourishment for patients at medical aid stations.
 - (k) *Rations for flying personnel.* Provision of rations for flying personnel must be planned to delete gas-forming foods which decrease the flyer's efficiency at high altitudes. The development of subclinical vitamin deficiencies in flying personnel operating under field conditions also requires special consideration and may necessitate the issue of multivitamin capsules or other vitamin-furnishing ration supplement.
- (2) Rations other than types A and B are special purpose rations and, although some of them may provide a lower nutritional value, they may be used over short periods of time without affecting the troops. When troops go into battle, low consumption of foods normally occurs due to the stress and strain of the situation. Because of lack of variety and attending monotony, the use of these rations beyond the prescribed limitations impairs the operational efficiency of troops, and it is incumbent upon all officers exercising the function of command to adhere to the prescribed limitations to the greatest extent possible. When deemed

necessary, field commanders may increase the basis of issue of these rations or their components as climatic conditions or nutritional requirements dictate, for example, Arctic conditions. Whenever the tactical situation permits, field commanders endeavor to issue to all personnel a minimum of one hot meal daily from the Ration, field, type A or the Ration, operational, type B. Normally, organizational and unit reserves consist largely of type B operational rations, and individual type rations. Supply points, especially those operating under an alternate system of supply described above, and army depots carry fairly large and well-balanced stocks of all types of rations. A minimum of 10 percent overissue can be expected in combat zone ration distribution to take care of distribution factors, losses, transient personnel, rapid fluctuations in unit strengths, unusually difficult combat conditions, or other emergency messing problems. The sundries packs may be distributed on a daily or weekly basis as the army commander directs. The special items packs are issued on requests of the hospital or aid station commanders, based on the number of patients served.

e. Soap, atabrine, salt tablets, toilet paper, insecticides, and similar articles may be issued through class I supply points. American Red Cross and civil relief supplies may be issued through army supply

points as an emergency measure when directed or authorized by the theater commander. Procedures for requisitioning and issuing these supplies are prescribed by the authorizing headquarters.

179. CLASSES II AND IV SUPPLY PROCEDURE (fig. 21). Classes II and IV supplies are obtained by using units by formal or informal requisition on the designated local issue section of a depot or army supply point, or by direct exchange of unserviceable items for like serviceable items. Except for regulated items, using units' requisitions should not be passed through any headquarters having only tactical control, but should be placed directly in the hands of the local issue section of a depot or army supply point charged with issue. Divisions are responsible for their own internal supply and normally draw supplies in bulk from designated local issue sections of depots or army supply points, except that for their



¹ Unit transportation.

² Divisions and similar organizations normally consolidate requests, draw supplies, and transport them to a division distributing point from which issue is made to subordinate units. Alternatively, divisions may arrange for subordinate units to draw direct from army supply points.

Figure 21. Diagram for distribution of classes II and IV supplies.

quartermaster class II supply, divisions may forward requisitions of individual units without consolidation. Since the composition of corps troops may change rapidly and frequently does, it generally is not advisable for corps to intervene in the supply chain or consolidate requisitions for normally available items. Army must insure that all troops are within reach of designated army supply points at all times. Supplies for army depot stocks of non-regulated items are procured by requisition on the communications zone.

a. Divisions, being self-contained administrative organizations, normally draw supplies in bulk from army supply points or depots and break down issues to divisional units; requisitions for sized items, such as clothing, may be assembled by division and forwarded to army without consolidation. It is desirable for army to maintain a limited stockage of fast moving quartermaster supplies and equipment (such as stocks and other items of clothing) at forward supply points in order for divisions to replace these items by direct exchange or on an informal certificate of loss. Subordinate units of corps (except divisions) likewise submit their requisitions to army supply points without consolidation. Other subordinate units of army receive their issues from designated army supply points on which requisitions have been placed.

b. In the unusual cases where credits are issued to subordinate units within the army, supplies are drawn against credits by direct call on the designated army supply point.

c. Division and other using units normally requisition supplies on an established periodic basis but, when emergencies justify, demands may be placed at any time.

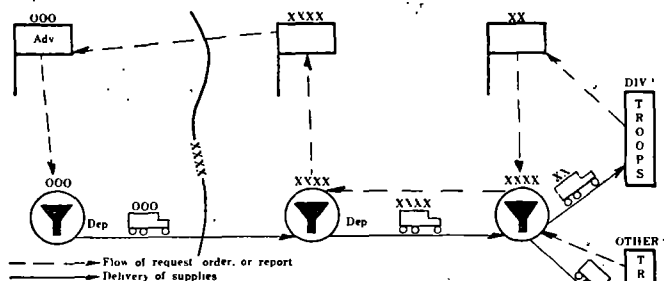
d. Regulated items normally are supplied by specific allocation or credit issued by the controlling administrative headquarters. Army technical services prepare all army requisitions for regulated and class IV supplies and forward them to designated communications zone agencies. Daily reports of battle losses and periodic status of equipment reports may be used as demands for regulated items and allocation of available supplies based upon these data. Amounts of regulated items to be apportioned between armies are controlled by army group or theater, and apportionment between armies and elements of the communications zone is established entirely by theater army commander.

e. In the case of mechanical equipment, direct exchange is the preferred form of resupply, and operates to make unserviceable equipment available promptly for repair or recovery of essential parts.

f. Within the communications zone, requisition and retail issue of classes II and IV items are accomplished by subordinate units by submission of requisition or direct exchange at designated communications zone supply points in a manner similar to subordinate units of army. Issues of regulated and class IV items are controlled by communications zone headquarters and communications zone section headquarters, based upon allocation of such items by theater to the communications zone.

180. CLASS III SUPPLY PROCEDURE (fig. 22). a.

Class III supply in the combat zone is accomplished by the movement of class III supplies, primarily petroleum products, from communications zone depots, through army class III installations, through division or corresponding unit distributing points, to the using troops. The army class III depots ship class III supplies to the army class III supply points in army transportation. The army depots, in turn, are refilled to their prescribed levels by supplies shipped from the communications zone issue depots. Where facilities are not available for handling bulk products, packaged petroleum products are delivered from the communications zone in communications zone transportation in a manner similar to deliveries of class I supplies. When pipe lines, tank cars, and tank trucks are available, gasoline and sometimes Diesel fuel are delivered in bulk to a canning estab-



* Divisions and similar organizations normally consolidate requests, draw supplies, and transport them to a division distributing point from which issue is made to subordinate units. Alternatively divisions may arrange for subordinate units to draw direct from army supply points.

* Army, corps, and Air Force units submit requests and draw directly from army supply points. Frequently it is advantageous to group units for supply purposes.

Figure 22. Diagram for distribution of class III supplies.

lishment which is located in the army maintenance area or even farther forward and operated by troops of the army or communications zone. The bulk products then are packaged and distributed by army to army class III supply points. Divisions draw from the army supply point and haul the packaged supplies to distributing points and issue to using units such as regiments and battalions. Issues are made on a strict basis of exchange of a full container for an empty container.

- (1) The instrument for formally requisitioning class III supplies is the *daily status report* which includes information as to stock on hand and requirements for the next period. Frequently, an empty container or gasoline tank on the vehicle constitutes the only requisition of the using unit.
- (2) Corps troops, army troops, air force units and communications zone units in the combat zone normally are grouped by the next higher headquarters to facilitate drawing class III supplies in the same manner as divisions.

b. In the communications zone, issue depots or separate supply points are designated to serve particular areas. Within these areas, units grouped together for class III supply purposes draw directly from the depots or supply points without submitting requisitions or status reports through an intermediate agency. The issue depots and supply points are reconstituted to their prescribed levels by direct

requisition or by submitting status reports to supporting depots.

181. CLASS V SUPPLY PROCEDURE (fig. 23). Class V supplies have a direct influence on tactical operations, and items in short supply are controlled in tactical command channels throughout the system. The ammunition supply system is based on the possession in the hands of using units of a fixed and determined basic load of ammunition which will be replenished as used. The ammunition supply system is designed to permit the replacement of quantities expended from basic loads with maximum promptness and minimum formality insofar as using units are concerned.

a. The following terms are used in ammunition procedure:

(1) *Available supply rate of ammunition.*

The available supply rate is the rate of consumption in rounds per weapon per day that can be sustained with available supplies, announced by each commander, and applicable within his command. This rate is flexible to conform to changing operational plans and commitments and changing tactical conditions. It is used as a control within a unit on the amount of ammunition that may be expended by that unit. At army group and army level, the term also is used as a forecast of ammunition availability. The available supply rate is computed on, and applied to, tactical weapons

only, that is, the weapons in divisions, the crew-served weapons in nondivisional tactical units. Weapons in combat service support units and service support units are excluded.

- (2) *Basic load of ammunition.* The basic load is the amount of ammunition expressed in rounds by type which can be carried by a unit in its organic transportation, provided by tables of organization and equipment. It is a fixed amount of ammunition established by the Department of the Army concurrently with publication or changes in tables of organization and equipment. It is subject to change only when a change in the table requires or permits an increase or decrease in the amount of ammunition which a unit can transport. It is expressed in rounds by kind or caliber, but percentages by type are left to the discretion of the unit commander (in general, percentages used in "day of supply" should be followed. Basic load must be considered when formulating equipment requirements for any tactical unit. Special temporary adjustments, when necessary in water-borne, air-borne, and air-transported units in specific combat situations, will be prescribed by the commander directing the operation.
- (3) *Day of supply of ammunition.* A day of supply consists of estimated quantity of ammunition required per day per weapon

to sustain operations in an active theater. It is used by the Department of the Army and by the theater commander in establishing theater stock levels. The basis is applied to all weapons authorized to be in the hands of troops in the theater, beginning with arrival in the theater.

- (4) *Required supply rate of ammunition.* The required supply rate is the amount of ammunition for each type weapon, expressed in rounds per weapon per day, required to sustain operations of any designated force without restriction. This is not a fixed rate and is changed to conform to progress in operations. The term may be applied to tactical units (division, corps, army, army group, etc.) and may vary for each division, each corps, and within the division and corps, etc. It is used in conjunction with the available supply rate, and is computed on and applied to tactical weapons only (weapons in divisions, and crew-served weapons in nondivisional tactical units; the weapons in combat service support and service support units are excluded).
- (5) *Theater stock level of ammunition.* The theater stock level is the amount of ammunition authorized for stockage in the theater, expressed in days of supply, that must be maintained to insure an uninterrupted flow of ammunition from ports to depots and ammunition supply points in

the combat zone, to provide adequate reserves to replace losses occasioned by enemy action or accidental explosions or fires, to cover delays in shipment of resupply from the zone of interior, and to absorb variations in consumption rates. This level, when expressed quantitatively, becomes the stockage objective for each item and is entered as such on stock record cards. The theater stock level includes all ammunition in communications zone depots and supply points and all ammunition in army depots and ASP's but does not include basic loads of units. The theater stock level is computed on the basis of all weapons authorized to be in the hands of units in or en route to the theater. Weapons in the theater or en route for depot stock as maintenance replacements are not included in computing the theater stock level. Cognizance is taken of time required to report availability, approve and issue credits, and receive necessary calls against such credits.

- (6) *Procurement rate.* The procurement rate is the amount of ammunition in rounds per weapon per day that must be manufactured in the zone of interior to maintain an uninterrupted supply to all theaters and within the zone of interior. It usually is expressed in end items, but for procurement purposes may be expressed in terms of tons. The procurement rate is determined by the

Department of the Army, based on requirements of the various theaters (active and inactive), on requirements of the zone of interior (including training), on requirements of allies, and on pipe line needs. It must be sufficiently flexible to meet changing conditions and situations promptly but at the same time must be economical of national resources.

b. To the extent that class V supplies are available in quantities sufficient to permit unrestrained firing, unit commanders secure quantities needed to refill basic loads by submitting to the designated ammunition supply point a transportation order stating that quantities listed thereon are required for replacement of ammunition expended from basic load. Transportation orders are prepared by unit munitions officers or S-4's and in divisional units approved by the division ammunition officer (DAO).

c. Ammunition supply points of army are refilled by shipments from the army depot or, in unusual cases, direct from communications zone depots as directed by the army ordnance officer. Army depot class V stocks are replenished by requisition or by calls on appropriate communications zone headquarters or depots.

d. Ammunition items are controlled by a system of credits down to army, and by a system of rationing and restrictions on firing within the army. The determination of the basis for ammunition allocation is made through advanced estimates of requirements made up by combat commanders and coinci-

dental advanced estimates of availability formulated at periodic intervals by the communications zone ordnance officer. Divisions (corps, for corps troops) compute the quantities of ammunition expected to be required to meet anticipated tactical needs of the ensuing period (10 to 15 days) in terms of a "required supply rate." The required supply rate is stated in terms of rounds per weapon per day based on weapons in the hands of tactical units. Service type units are excluded from this computation except that all weapons are included within the division. Army consolidates the advance estimates of corps and divisions, adds in any factors not known to corps and divisions, such as troops in army reserve and planned changes in tactical emphasis, and states to army group or theater a "required supply rate" for the army. Concurrently, the ordnance officer in the communications zone computes and transmits to the theater ordnance officer the expected availability of ammunition by type for the forthcoming period. Ammunition cannot be assumed to be available until on hand in a base depot, segregated, recorded, and available for shipment. The theater ordnance officer, under coordination of G-3 of the theater, allocates the ammunition expected to be available from the forecast as between army groups. If no army group is present, the theater performs the army group function. Army groups match the required supply rate stated by the various armies against total quantities of ammunition expected to be available and state to each army a supply rate that will be made available to the army

concerned during the period covered. The supply rate may be different for different armies, based upon the tactical mission of each army. Concurrently, army group issues to the ordnance officer of the communications zone instructions for the allocation of credits to each army to implement the stated supply rate. Credits actually are issued by communications zone direct to each army in terms of specific quantities in specific depots. Items determined by army group to be available in adequate supply are eliminated from credit allocation and from a statement of supply rate and are left on an open requisition basis. Based upon information received from the army group and from credits and stocks on hand, the army commander and his G-3, with advice of the appropriate army technical service, states to each corps the supply rate for restricted items that can be supported within the scope of available supplies. The stated rate may be different for different corps. In each case, the statement of supply rate has the force of a directive and requires that commanders restrict the use of ammunition to the quantities stated per day. Normally, units should be permitted to accumulate savings over a reasonable period. Corps commanders, in similar fashion, specify supply rates for divisions of the corps and for elements of the corps troops having combat functions.

e. The credit system generally is not used within the combat zone; armies are given credits in communications zone. When necessary, issues below the army level are controlled by command restriction on the amount of ammunition actually fired. Reports

of stocks on hand are not required from using units since the entire system is based on the basic load being maintained at all times to the full quantity authorized.

f. Army supply points and depots report daily to the army ordnance officer stocks on hand and issues for the preceding 24 hours. Issues from army supply points are assumed to have been expended.

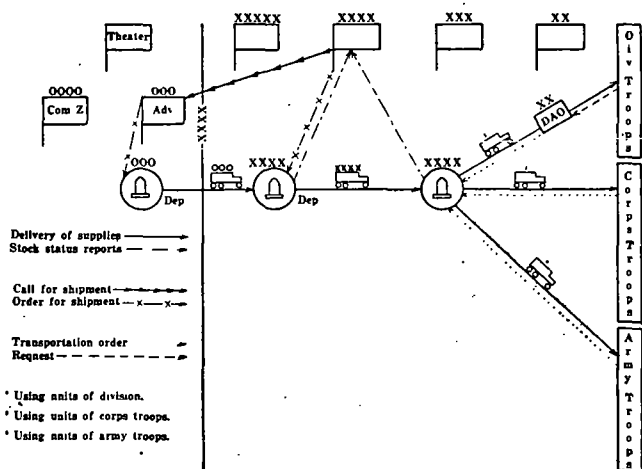


Figure 23. Diagram of distribution of class V supplies.

Section VI. MISCELLANEOUS

182. ADJUTANT GENERAL SUPPLIES. Adjutant general supplies consisting of blank forms and publications are requisitioned, procured, stored, and issued through adjutant general channels, but tonnages and space requirements must be considered in the allo-

cation of shipping and storage space as for other supplies.

183. AIR FORCE SUPPLIES. Air force supply presents some special problems due to the fragility, bulk, expense, and wide variety of the articles handled. Commanders and staffs in both the communications zone and the army areas must make provision for the allocation of tonnages and transportation for the movement of such supplies and equipment over available rail and truck routes. Appropriate commanders within the air matériel command estimate their tonnage and transportation requirements and request these services or allocations from the commander controlling transportation in the area.

184. ANIMALS. Procurement and distribution of animals are accomplished through remount depots which are installations for receipt, care, training and conditioning, and issue of animals. Remount depots should be located in the vicinity of veterinary evacuation hospitals in order to receive rehabilitated animals returned to duty.

185. CAPTURED MATÉRIEL. Captured matériel presents special problems, including segregation of matériel of new or unusual design, dangerous items, and usable enemy supplies and equipment. Captured matériel, except Air Force equipment, which appears either to be of new design or to contain new materials, is turned over, either direct or through technical intelligence teams, to the special staff officer

of the appropriate supply branch who is responsible for spot evaluation and transmission of appropriate information to the appropriate intelligence officer. He expedites the delivery of the item to the theater of operations special staff officer for further technical analysis. Enemy air supplies and equipment (including aircraft equipment carried in aircraft or by aircrews), name plates, and enemy air base maintenance supplies and equipment (excluding bombs, mines, and aerial torpedoes) are turned over to the intelligence officer of the nearest air force unit. If no such unit is locally known or available, a radio report is made to the intelligence officer of the nearest air force headquarters. Matériel is safeguarded until disposition is directed by proper authority. Since enemy matériel provides an excellent source for technical intelligence, it is essential that captured enemy matériel of this type reach the proper authority (See FM 30-15). Matériel that is dangerous or potentially dangerous, such as ammunition, explosives, and captured mine fields, must be guarded. Often, captured mine fields are exploded in place. Captured ammunition and explosives are examined by representatives from the ordnance, chemical, and engineer services, as appropriate. Decisions to utilize or destroy dangerous items are the responsibility of the commander concerned, in accordance with the policy of the theater.

a. Captured enemy matériel becomes the property of the United States immediately upon capture. Consequently, it must be safeguarded and treated in the same manner as all other Government property.

Usable captured matériel is distributed through the usual supply channels or is moved to the rear, as in the case of salvage. In order to effect maximum exploitation, it often is necessary to have such matériel modified by the appropriate technical service. Matériel and instructions for employment are made available to units for training purposes.

b. When advisable, captured matériel is utilized against the enemy for both material and morale effect. Matériel which cannot be repaired or employed by smaller units is turned over to the next higher echelon. Captured matériel, particularly transportation, which is authorized for use by individuals or organizations is marked plainly and inspections are made by higher headquarters to ensure that it is being employed legitimately.

186. CIVIL AFFAIRS-MILITARY GOVERNMENT SUPPLY. Civil affairs-military government supplies consist principally of commodities such as food, coal, petroleum products, medical supplies, clothing, and any raw materials which can assist in local production. Estimating requirements, recommending credits, and planning for distribution of supplies to civilians are responsibilities of the military government officer of the command. Procurement, transportation, and distribution operations are responsibilities of the appropriate technical services. Normally, civil affairs-military government items are handled as regulated items without the necessity of being listed by the chiefs of the supply services, or included in the theater regulated items list. It

is essential that in preparing over-all supply plans, supplies for civilians be considered in making allocations of shipping and storage space. In estimating requirements for these supplies, consideration is given to such factors as local production, time of harvest, percentage of population living in cities, extent of enemy damage, status of transportation, and the established rationing and collecting system. The chiefs of the supply services are responsible for establishing procedures for distributing items of civil affairs-military government supplies as requisitioned. Civil affairs-military government items carry special marking to facilitate ready identification on receipt. When it is necessary to procure supplies for civilian populations from the zone of interior, such supplies are furnished to the theater commander through established military supply channels.

187. ENGINEER SUPPLY. Engineer supply determines, to a large extent, the success of operations in modern warfare. Careful logistical planning is necessary to provide balanced quantities of engineer supplies and equipment at the time and place needed. Many thousands of items and hundreds of thousands of spare parts of tremendous tonnages are essential for the provision of vital facilities and services such as airfields, ports, roads, bridges, hospitals, shelter, storage, water supply, demolitions, and map reproduction.

a. It must be realized by all commanders that engineer supply in the type, quantity, and order of receipt

of items must, to a far greater degree than for other services, be tailored to the physical conditions prevailing in the objective area.

b. Engineer supplies to accompany assault troops are combat-loaded. Particular attention must be given to see that an engineer assemblage such as a rock crusher, or a prefabricated hospital which has many component parts and is packed in many different crates and boxes, is loaded in one ship. Due regard must be given to loading so that loss of any one ship will not result in loss of the total quantity of any item of engineer supply.

c. Engineer supply and maintenance activities generally are handled under centralized control in engineer headquarters and in field organizations. The unit for supervising field activities of maintenance and supply is the engineer maintenance and supply group. This unit is composed of engineer depot battalions and engineer maintenance battalions to which are assigned or attached engineer depot companies, supply part companies and equipment supply companies, and engineer maintenance companies and parts companies, respectively. Gas-generating, foundry, and other detachments, dump truck companies, and service companies may be assigned or attached as required.

188. EXCESS AND SURPLUS SUPPLIES. Excess and surplus supplies are caused primarily by changes in plans. They also may develop as a result of lack of supply discipline. The term "excess property" refers to supplies exceeding those authorized for the par-

ticular organization or supply component of the Department of the Army. Surplus property is that property which has been determined to be in excess of the total requirements of the Department of the Army. For example, supplies excess to an infantry division actually might be short in some division; therefore, such supplies are not surplus from the standpoint of the Department of the Army. Supplies that are excess in a unit are segregated, inventoried, and reported to the next higher echelon in the supply chain. Excess supplies in forward areas are moved to supply points, usually utilizing vehicles moving to the rear that otherwise would be empty. The determination and elimination of excess supplies are continuous functions of all units and supply establishments at all times. Excess supplies are returned to the supply channel by evacuation through normal supply channels. Excess and surplus stocks developing within the theater are reported, redistributed, and disposed of as prescribed in TM 38-420.

189. PETROLEUM PRODUCTS IN BULK. Supply of petroleum products in bulk, as far forward as practicable, is desirable on account of the saving in transportation that may be effected by use of tankers and pipe lines. However, consideration must be given to the necessity for canning plants at points of bulk storage to prepare supplies for retail issue. When supply is by tanker, arrangements must provide for discharge by pipe line to bulk storage tanks. The engineer service, in collaboration with the Quartermaster Corps in the accomplishment of the latter's

over-all petroleum responsibilities, constructs, maintains, and operates petroleum pipe lines, and constructs and performs field and base maintenance on bulk petroleum storage equipment which the Quartermaster Corps operates and maintains (organizational maintenance). The transportation service in collaboration with and as required by the Quartermaster Corps, in accomplishment of the latter's over-all petroleum responsibilities, transports petroleum products by motor, water, rail, and air, including the scheduling of shipments where necessary, with Navy, Air Force, or commercial agencies, as required by the Quartermaster Corps. The Quartermaster Corps has over-all petroleum responsibility, and operates depots, supply points, and bulk storage plants, including tank farms and limited bulk storage in forward areas.

a. Depots for storage of petroleum in bulk usually are located in the communications zone or in rear areas of the combat zone, supply to forward combat units being accomplished by means of packages (5- or 55-gallon drums).

b. Petroleum products, including motor and aviation gasoline, Diesel fuel, fuel oil greases, and lubricants form over 50 percent of the cargo tonnage to a theater. Requirements shift widely in amounts and location with the changing situation. For this reason, requirements, allocations, and movement control of bulk petroleum products sometimes are centralized in a theater petroleum officer who may be located at headquarters communications zone, theater headquarters, or near principal storage concentration

areas. Petroleum supply in the communications zone may be effected by a petroleum service which assumes, on direction of the theater commander, all engineer and quartermaster petroleum supply operations in the communications zone. This service deals with the transportation service for motor, water, rail, and air transportation within the theater, and through the theater petroleum officer (or headquarters communications zone) for bulk movements into the theater.

c. Commanders must realize the large tonnages involved in providing containers for class III supplies. Usually, only a relatively small part of a theater reserve can be stored ashore even with adequate containers; the bulk of the reserve normally is in tankers. Drums must be returned and reused.

190. RELIGIOUS SUPPLIES. Religious supplies consist of items of supply and equipment for the use of chaplains and other military personnel in corporate religious services and in connection with acts of private devotion, which are not procured and issued by other branches of the service, such as beeswax candles, sacramental wine and grape juice, communion wafers, prayer books, religious tracts, rosaries, religious medals, and Seder supplies. Normally, each unit that goes overseas has an initial supply of such material. Resupply is effected by requisitioning through technical channels on the religious supply procurement and distribution system created in each overseas command by the senior chaplain in accordance

with existing policies of the Chief of Chaplains and of the theater commander.

191. SALVAGE. Salvage consists of recovered matériel which can be used for the original purpose either with or without repair and matériel which can be converted to a substitute use or which has value as scrap. The prompt collection of equipment which has been abandoned on the battlefield and in bivouac areas, and the utilization of waste materials are important measures in the conservation of military resources. Salvage operations make available substantial quantities of arms, equipment, and supplies for reissue; conserve labor and materials; and afford relief to shipping, rail, and highway transportation.

a. The responsibility for the collection of salvage does not rest solely on service units but on every individual in the armed forces. Unit commanders are responsible for salvage discipline, including collection and movement of salvage to collecting points situated along routes of communication.

b. In divisions and higher units, recovery and salvage collection operations are continuous and important functions of all technical services. Depending upon the quantity of such equipment handled by the technical service concerned, specialized units may be used and collecting points established, or normal service units of the technical service may be designated to establish collecting points. Salvage does not cease to be a responsibility of the technical service concerned so long as it can be used for the original or a similar purpose by repair, reclamation,

or modification. The scrap byproduct of reclamation is turned over to the quartermaster service for disposition.

c. The salvage service of the theater of operations consists of units engaged wholly or in part in the collection, evacuation, classification, reclamation, and disposition of waste materials, abandoned property, and unserviceable supplies. Installations of the salvage service comprise collecting points, clothing and bath units, laundries, and other reclamation plants and shops. In emergencies, combat troops are detailed to assist in collection.

d. Technical services designate normal service units supporting the using units to establish collecting points for appropriate types of matériel in favorable locations on road routes to the rear. Empty vehicles moving to the rear are utilized to transport recovered matériel to such collecting points. In the case of heavier equipment, and particularly in rapidly moving situations, technical service units of the army must assist in the collection and evacuation of salvage matériel. Items pertaining to other technical services, collected by such units in the course of their operations, are turned over to the nearest collecting point of the appropriate service. Arms and equipment of the sick and wounded are collected at medical establishments and are returned to supply channels promptly.

e. Technical service personnel inspect and sort salvage property at collecting points. Serviceable items are returned to supply points for redistribution. Repairable items are evacuated to the appro-

priate technical service shop for repair and return to stock. Major items and major combinations not repairable to their original form are inspected, condemned, and disassembled for recovery of serviceable and repairable parts and assemblies. Items and assemblies not repairable within the resources of the command, but repairable in base shops, are evacuated to designated reclamation establishments in the communications zone. Captured enemy equipment is handled in the same fashion, except that samples of new equipment are turned over immediately to technical intelligence. Matériel which has been classified as scrap, and any other items which have no value except for their basic matériel content, are turned over to the quartermaster salvage officer.

192. SOLID FUELS.—Solid fuels (coal, coke, wood, peat), on account of their bulk and weight, are procured locally under established policies, whenever possible, preferably utilizing civilian labor, if permitted by the situation. Distribution and issue of solid fuel are in accordance with the general principles for distribution and issue of other supplies, priority being given to hospitals, railroads, essential military and civilian utilities and manufacturing installations, communication centers, and headquarters. The Corps of Engineers is responsible for procurement, storage, and issue of all solid fuels.

193. SPECIAL SERVICES SUPPLIES. **a.** Special services supplies consist of those items used for the entertainment and recreation of personnel, such as ath-

letic equipment, books, magazines, musical instruments, theatrical equipment and accessories, hobby shop tools and materials, photographic supplies and equipment, and motion picture facilities. Normally, each unit that goes overseas has an initial supply of special services equipment. Resupply is effected by requisitioning on the special services organizations that exist in the theater. In over-all supply planning, requirements for special services supplies must be considered in allocation of shipping space and storage facilities.

b. (1) Army and Air Force Exchange Service supplies consist of items classed as semi-necessary which are provided for resale to troops and other authorized individuals. In a theater actively engaged in combat operations, the articles usually consist of toilet articles, candies, tobacco products, magazines, soft drinks, beer, souvenirs, and other miscellaneous items that add to the comfort of the individual. In occupation zones and other oversea bases, additional items, such as civilian clothing, household furnishings, electrical equipment, and specially packaged foods, may be provided for resale.

(2) The determination of requirements, procurement, storage, and distribution of supplies and the operation of resale facilities are the responsibility of the Army and Air Force Exchange Service. However, decisions as to what categories of items are to

be sold and where they are to be sold are command decisions and the actual operations of procurement, transportation, storage, and sale of supplies normally are supervised by the appropriate general staff section of the command.

- (3) Supplies may be obtained by local procurement, by transfer from the other technical services, or by requisition on the Army and Air Force Exchange Service in the zone of interior. Allocation and shipment of supplies to the theater are dictated by available shipping space consistent with other priorities established to meet the primary military requirements of the theater.
- (4) When considered desirable and when facilities are available, shipment may be made by means of commercial transportation. If this method is used, transportation of the supplies then becomes the responsibility of the Army and Air Force Exchange Service.

194. TROOP INFORMATION AND EDUCATION SUPPLIES. Troop information and education supplies consist of those items necessary to provide military personnel with information and education services and include printed materials, motion pictures, radio broadcast stations, receiving equipment and transcriptions, and education visual and audio-visual materials. Tonnages and space requirements must be considered in the allocation of shipping and storage space for these as for other supplies. As the

channels and facilities of other services are utilized for procurement, storage, maintenance, and distribution, troop information and education services in the theater of operations necessitate provision in supply plans for the—

a. Supply of printing presses and allied equipment and the supply and stockage of paper for use in publishing news periodicals, posters, and other printed information and education material published overseas.

b. Receipt and transmittal of press-wire and other news services through military or commercial communication facilities.

c. Receipt of feature and special event news services, including printed material and reproduction mats, by air transportation on theater priorities.

d. Supply of radio broadcast transmitters, allied studio equipment, and radio receivers.

e. Receipt of radio broadcast program materials (transcription, scripts, etc.) by air transportation on theater priorities, and their circuiting within the theater or other oversea area.

f. Supply and stocking of education materials—education manuals (texts), instructor course outlines (lesson plans), other instructional aids, forms, and allied materials.

g. Supply and distribution of troop information and education motion picture films.

195. WATER SUPPLY. a. Responsibilities. Commanders must provide their troops with adequate quantities of safe water and enforce water discipline.

The logistics officer has general staff supervision of water supply. The engineer service determines water requirements; finds water sources, records and develops them; treats water and dispenses it; coordinates inspection and testing procedures; and procures and maintains water supply equipment. The engineer service operates water supply equipment for the supply of potable water to the individual user; the engineer service coordinates and supervises the production of potable water for such large consumers as laundry units who operate the equipment. The surgeon inspects and approves water sources and tests and approves treated water. Commanders may find it necessary to furnish civilians and civilian installations with water.

b. Requirements. Quantities of water required by troops are shown in FM 101-10. Requirements vary with the weather; less is needed in cold weather for drinking and bathing. Kitchens, however, continue to require water for mess kit sterilization even under conditions where little can be used for cooking, drinking, and washing. Animals, if present, need water and their water point must be near their picket line. In the communications zone, demands for water are greater than in the combat zone. Such needs include water for all units and cantonment areas; operation of steam power plants, railroads, laundries, and hospitals; concrete and other construction; manufacturing; and civilian needs.

c. Sources. Water is obtained by utilization of existing local sources, development of additional sources, and transportation of water into the area.

Local sources are utilized by treatment by unit or individual, by operation of engineer water purification or distillation equipment, or by military or supervised civilian operation of existing water supply plants. Water sources, in addition to existing local resources, are developed by impounding surface water, constructing catch basins, or drilling wells. Water may be transported into the area by rail, ship, truck, or pipe line. Where there are several readily available water sources in an area and all sources are free of unusual impurities, the following order of preference should govern the selection of the source:

- (1) In populated areas, use established public systems to the fullest extent.
- (2) Ground water sources, such as springs or wells.
- (3) Surface water sources, such as rivers, streams, lakes, or ponds.
- (4) Develop ground water sources by digging wells (for rear echelon units).
- (5) When no fresh water source can be found, use distillation units to purify sea water.

d. Impurities in water. All raw untreated water is considered unfit for military consumption whether or not civilians use it. It usually contains mineral and vegetable impurities, giving a turbid appearance and unpleasant taste, and disease-producing organisms such as bacteria, protozoa, and liver and blood flukes.

e. Treatment of water. Treatment of water includes sedimentation (the settling out of suspended

solids sometimes with the help of a chemical coagulant), filtration (through sand or diatomaceous earth to further remove suspended particles, bacteria, amoebas, and flukes), and chlorination (to disinfect the water from all disease producing organisms). When existing local sources of water are exceptionally plentiful and of high quality, troop units may obtain their water directly from local sources, sterilizing it themselves without use of engineer equipment. All such water sources must be approved by a medical officer before use. For emergency use, individuals are provided with chemicals, usually in tablet form, for purification of individual drinking water.

f. Water supply units and equipment. Division engineer units are supplied with water purification equipment for pumping, purifying, storing, and dispensing water secured from local sources. They set up water points at localities convenient to the principal elements of the division. Engineer units with corps establish water points for corps troops. Army engineer troops perform similar functions for army troops and, when necessary, transport water to water points within reach of corps and division troops. If sufficient water is not available in the army area, it must be transported into the area. Distillation equipment can be provided to make salt water potable. Squads and small units in the field may purify their own water with a portable hand-operated purification unit. Characteristics of water supply equipment, production data for engineer units having such

equipment, and typical assignments for engineer units in the combat zone are found in FM 101-10.

g. Kitchen supply. Each kitchen carries a limited supply of water for drinking and cooking and effects resupply by sending empty water trailers and containers to water points to be filled. In assault operations, initial resupply is by direct exchange of empty cans for full ones. Normally, units will be directed to draw water from specific water points where they may draw as much as desired. In desert warfare or where the supply of water is limited, water distribution may be restricted.

CHAPTER 5

LOGISTICS—EVACUATION AND HOSPITALIZATION

Section I. GENERAL

196. PLAN OF EVACUATION AND HOSPITALIZATION.

The general plan of evacuation and hospitalization within the theater of operations is prepared by the chief surgeon of the theater in accordance with policies prescribed by the theater commander. Execution of the plan, under supervision of the theater headquarters, is decentralized to the major commands.

a. Normally, the type hospitals assigned to the communications zone commander to enable him to carry out his portion of the plan include station, field, convalescent, and general hospitals. The same types may be attached for operations to the theater air force, if and when it is responsible for the hospitalization of its own personnel. Those assigned to armies include evacuation, convalescent, and surgical hospitals.

b. Surface evacuation from combat zone to communications zone is the responsibility of the communications zone commander, and air evacuation is the responsibility of the theater air force commander.

c. The plan for military operations in a given theater includes a definite plan for control of disease which provides for all sanitary measures of a general nature as well as special disease-control procedures.

d. Administrative control of sanitation is exercised by organization commanders of all grades who are responsible for sanitation within their commands. Sanitary measures are executed by personnel of the organization concerned or by special troops. Except in Medical Department organizations, medical troops do not execute sanitary measures other than those involving professional activities, such as physical examinations, immunizations, operation of laboratories, and inspections. In higher echelons, such as communications zone, army, or air force, policy regarding sanitation normally is controlled by circulars, bulletins, letters, or memoranda of instructions issued to the lower units of the command. Sanitary orders issued by commanders of units, such as divisions, are general in character and provide a basis for more detailed orders to be issued by subordinate commanders.

197. HOSPITALS. Hospitals are classified as mobile and fixed. In general, the hospitals in the communications zone (general, station, field, and convalescent hospitals) are of the fixed type, while those in the combat zone (evacuation, mobile surgical, convalescent, and holding hospitals) are of the mobile type. The designation "semimobile" in the title of certain evacuation hospitals does not affect the general clas-

sification, but denotes the ability of the unit to move by shuttling with its organic transportation.

a. Mobile hospitals are organized to support specific tactical units and appear in the troop list for any operation in proportion to the tactical units employed.

b. Fixed hospital bed requirements are calculated on the expected needs of a theater of operations which are based on the evacuation policy in effect and the expected daily admission rates. The Department of the Army allots the appropriate number of fixed beds to the theater which in turn allots them to the communications zone.

c. Field hospitals, while organically capable of moving and operating in the field with the ease of evacuation hospitals, are intended primarily for the communications zone and, when so employed, may be charged against the fixed bed allotment of the theater if approved by the theater commander. Likewise, if, in an emergency such as that caused by difficulty in the construction of fixed hospital facilities, it becomes necessary to augment the communications zone hospital facilities with other mobile type hospitals, the allotment of fixed beds by the Department of the Army to the theater of operations (communications zone) may be decreased correspondingly.

d. A requirement for hospital facilities exists at each location where there is a major change in the mode of evacuation. At the railroad, casualties must be collected and held ready for the arrival of the hospital train which is to continue their evacuation; to attempt to move the number of casualties required

to fill a train at one time from scattered medical units to the entraining point requires an unnecessarily large number of ambulances, disrupts the normal operation of medical units, and frequently results in hardship for the patients while being held in ambulances awaiting the arrival of the hospital train. The same considerations hold for airheads and ports of embarkation. At the rear termini of air, rail, and water means of evacuation, other hospital facilities are required to receive large numbers of patients, to sort them, and to distribute them properly to appropriate hospitals. When ambulance or air evacuation routes extend over long distances, it may be necessary to establish intermediate installations to provide rest for the patients while in transit. These units are known as holding hospitals, and their only function is to provide temporary shelter and emergency medical treatment to patients while they are awaiting transfer. These units may be operated by medical holding battalions specially organized for this purpose, or certain tables of organization hospitals may be designated to perform this mission, or, in the case of debarkation hospitals located in the zone of interior, specially constructed hospitals may be provided.

e. Wherever hospital facilities are established, laundry service will be provided by attaching appropriately sized quartermaster laundry units.

198. EVACUATION POLICY. The evacuation policy indicates the length in days of the maximum period of noneffectiveness for patients who are to be held in the theater for treatment, and is established by

the Department of the Army upon recommendation of the theater commander. Patients, who, in the opinion of responsible medical officers cannot be returned to duty status within the period prescribed, are returned to the zone of interior by the first suitable transportation, provided the travel required will not aggravate their disabilities. In conformity with the theater evacuation policy, major subordinate commanders establish evacuation policies subject to the approval of the theater commander, indicating the maximum period that patients may be held in their installations or areas.

199. DAILY ADMISSION RATES. Daily admission rates in theaters of operations are influenced by climatic conditions, terrain, status of training of troops, type of combat, enemy capabilities, and general sanitary conditions of the area. These factors must be considered and applied to experience tables for accurate advance planning. For experience tables on daily admission and detailed methods of computing the number of beds required, see FM-101-10.

200. EVACUATION AND HOSPITALIZATION SYSTEM. The evacuation and hospitalization system is based on the principle that it is the responsibility of rearward units to relieve forward units of their casualties in accordance with the established evacuation policy. This principle extends from the responsibility of the zone of interior to evacuate and hospitalize all long-term casualties from a theater of operations to re-

sponsibility of the battalion medical platoon to evacuate casualties from the companies of the battalion. Evacuation and hospitalization facilities are provided by each echelon according to the expected needs of that particular organization and those to be received from the forward echelons. Medical installations are established only as required to meet existing needs or the contingencies of the immediate future; medical units not required for these purposes are held in reserve.

a. The evacuation means employed depends upon the facilities available and the tactical situation. Ambulances are substituted for litter bearers at the forward limit of vehicular traffic, and hospital trains or transport aircraft are substituted for ambulances at the forward limit of rail or air traffic. Combat zone hospitals are pushed forward where they are easily accessible to division clearing stations, and communications zone hospitals are sited well forward, perhaps in advance of the army rear boundary, to reduce the distances casualties must be evacuated.

b. No patient is evacuated farther to the rear than his physical condition or the military situation requires. At each medical installation there is a sorting of patients by which they are classified as being suitable for treatment at that installation, as requiring evacuation farther to the rear, or as being fit for duty.

c. In both the combat zone and the communications zone, there are established convalescent facilities, the function of which is to receive patients no longer requiring active hospital treatment but who

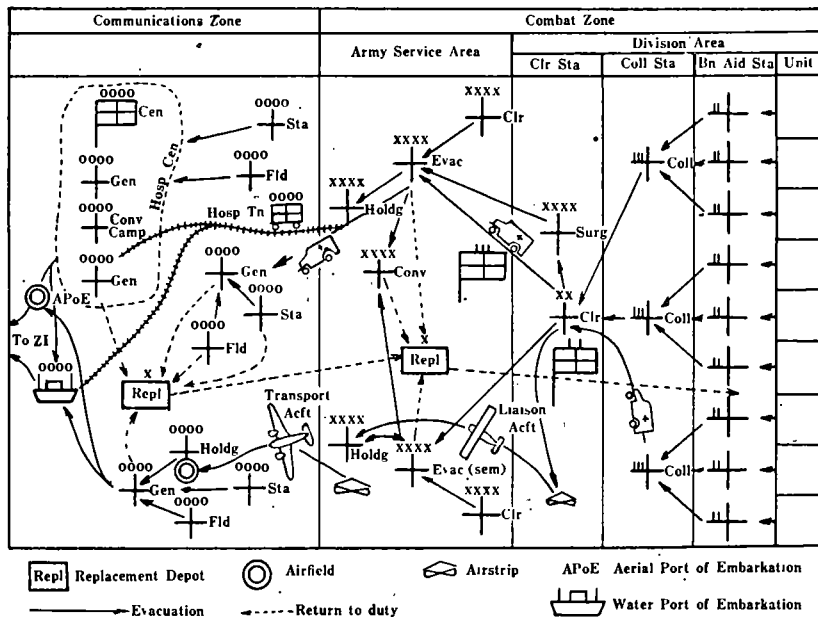


Figure 24. Diagram of evacuation and hospitalization of personnel.

are not yet ready to return to duty. The mission of these installations is the rehabilitation of salvageable personnel to the extent that they are physically fit to undergo the necessary military training. The employment of battle-experienced convalescent officers in the rehabilitation program is encouraged.

201. MEDICAL PERSONNEL AND MEDICAL UNITS (fig. 24). Medical personnel and medical units may be assigned or attached to regiments, battalions, or corresponding units of other arms and services; may be assigned or attached to hospitals; or may be members of groups, battalions, companies, or platoons composed entirely of medical troops. When these latter medical units are assigned as integral parts of armies, corps, or divisions, their principal duties are collecting, sorting, and clearing casualties and evacuating them to army hospitals. Mobile hospitals are assigned to army in the combat zone to give temporary hospitalization to casualties received from organizations located in the combat zone. Fixed hospitals located in the communications zone and certain mobile hospitals, when assigned thereto, receive patients from communications zone units and from the combat zone. The mission of these hospitals is the treatment of all cases which may be held in the theater of operations under the existing evacuation policy and the preparation of all others for transfer to the zone of interior.

Section II. COMBAT ZONE

202. DIVISION MEDICAL SERVICE (fig. 25). The division medical service relieves the regimental medi-

cal companies and battalion medical detachments of their sick and wounded, and gives them temporary care pending their evacuation by higher echelon.

a. The division employs the various elements of the medical battalion to operate the division ambulance service, division dental service, and division medical supply service, and to establish a clearing station or stations for temporary care of casualties while their evacuation by higher headquarters is pending. When the situation warrants, the division medical service is augmented by attachment of reinforcements from the army or corps medical service.

b. The clearing station established by one or more clearing platoons or sections is the rearmost echelon in the division medical service. Here, casualties are received from the collecting stations, sorted, and given temporary care and emergency treatment. Operation of the station is based on the principle that casualties are evacuated to the rear as rapidly and as safely as possible. A desirable site for a clearing station is near good roads to front and rear; within reasonable distance from the collecting stations; in an area sufficient for complete establishment, including space for the establishment of a mobile surgical hospital; and, whenever practicable, where buildings, water, sewerage, and lighting facilities exist. Close proximity to important military objectives is avoided. In selecting sites for the location of clearing stations, consideration is given to location of landing strips to take advantage of evacuation by air. For further details on medical operation in various types of divisions, see FM 8-10.

203. CORPS MEDICAL SERVICE. The medical service organic to corps consists of the corps surgeon and his assistants. In order that the medical service function within the corps beyond the stage of inspection and staff advice, it is necessary for medical troops to be attached to the corps. While the corps medical service normally is not a link in the chain of evacuation, it may be directed by army to supervise operation of mobile hospitals within the corps zone of action. When acting independently, the corps medical service functions as described for army medical service, but must be augmented. Ambulance units attached by army to corps (a separate medical battalion) transport noneffectives of corps units not serving in division zones of action to corps clearing station(s). They may be used also to reinforce division collecting service and, in emergencies, may assist army in the evacuation of division clearing stations. Clearing companies establish corps clearing stations for the temporary care of the sick and wounded of corps troops. They may be utilized either to reinforce the division medical service, or, in emergencies, to relieve the division clearing stations of their casualties in order to permit the advance of those stations.

204. ARMY MEDICAL SERVICE. The army medical service provides medical attendance for army troops, reinforces the medical service of corps and divisions, and evacuates casualties from division and corps clearing stations to evacuation hospitals where they are hospitalized pending their recovery or removal

to army convalescent hospitals or to hospitals in the communications zone.

a. Army collecting and ambulance units perform the bulk of the evacuation and transportation of patients within the army area. Army evacuation hospitals are established in supporting distance of clearing stations and, though operating under army control, may be placed under corps supervision. Evacuation hospitals constitute the neck of the funnel through which all casualties (less those evacuated by airplane) must pass in their transit from the combat zone to hospitals in the communications zone. Normally, they are established 12 to 30 miles or more from the battlefront; when practicable, they should be near landing fields, on railroads, or on navigable waterways leading to the rear. Good roads to the front and to the rear are essential.

b. Grouping two or more evacuation hospitals in the same general area facilitates evacuation of patients to communications zone general hospitals, and insures admission to the hospital best prepared to treat incoming casualties. The evacuation hospitals are relatively immobile; when once established during combat, they are not moved until the troops have advanced so far that it is more advantageous to move the unit to the patient than the patient to the unit. The mobile surgical hospitals are used to reinforce the division clearing stations by receiving nontransportable patients and preparing them for further evacuation by employing necessary surgical measures. Convalescent hospitals, located in the army

area, receive convalescents and other patients who offer prospect of early restoration to combat fitness, and play an important role in the conservation of troop strength within the combat zone.

c. Evacuation and hospitalization of animals are handled by veterinary units in a manner similar to the evacuation and hospitalization of personnel.

205. EVACUATION WITHIN THE COMBAT ZONE.

Evacuation within the combat zone is accomplished as follows: to aid stations by walking, manual transportation, litters, or motor transportation (if terrain and military situation are such as to permit their utilization without undue exposure to enemy fire); from aid stations to collecting stations by litters and ambulances of the unit medical service; from collecting stations to clearing stations by ambulances or airplanes; from clearing stations to evacuation hospitals by ambulances or airplanes; and from evacuation hospitals to communications zone hospitals by air, hospital train, ship, or ambulance.

a. Air evacuation within the combat zone is accomplished by the use of liaison aircraft, helicopters, or light transport planes. The aircraft are operated and maintained by theater air force units (for example, a liaison squadron), but are placed under the operational control of the army surgeon. By the use of artillery observation airstrips or any relatively smooth, cleared area, these small planes can pick up casualties close to the front lines and deliver them quickly to evacuation hospitals or to forward airfields for further evacuation by transport aircraft.

b. Evacuation of casualties is a command responsibility normally performed by the medical service. It is secondary only to combat operations and the forward impetus of logistical support for combat operations. The administrative plan at all command levels includes provisions for casualty evacuation. Normally, Medical Department ambulances and returning empty vehicles meet casualty evacuation requirements; however, every practicable means of transportation is used when the situation dictates.

Section III. COMMUNICATIONS ZONE

206. MEDICAL SERVICE IN THE COMMUNICATIONS ZONE. Medical service in the communications zone is provided for all cases originating therein or received from the combat zone. The number and type of hospitals in the communications zone depend upon its location in relation to the zone of interior, the extent of the zone, the number of troops involved, the character of hostile resistance, and the theater evacuation policy. In the communications zone, hospitalization requirements are anticipated and, where possible, construction begun months in advance of the time beds are to be occupied. With the exception of field hospitals, only fixed hospitals normally are utilized in the communications zone. When available, existing shelter in permanent buildings is utilized in the establishment of fixed hospitals. Otherwise, accommodations may be provided by new construction. There are several types of units available for the establishment of fixed hospitals:

a. Field hospitals are mobile hospitals designed to

give treatment in the field (such as station hospital type service) where it is impracticable to establish fixed hospitals as in areas of transitory troop concentrations, or to receive patients while construction of fixed hospitals is under way. These units are organized into three identical hospitalization units, each of which is capable of independent action if required and if adequate transportation is furnished.

b. Station hospitals are fixed hospitals which serve only the limited area to which assigned and usually do not receive patients from the combat zone. They are established at locations in the communications zone where there is a sufficient concentration of military personnel to require local hospitalization.

c. General hospitals are fixed units (1,000-, 1,500-, and 2,000-bed capacity) designed for definitive treatment of all cases which occur within the theater of operations. Normally, the majority of these cases come from the combat zone. General hospitals are located a sufficient distance from the combat zone so that military reverses will not disturb their operation and at points which afford good communications with both the combat zone and the zone of interior. They require utilities such as water and sewerage systems, electricity, and gas, and station services, especially laundry units. Suitable railway sidings must be provided near general hospitals if rail evacuation is to be utilized, and the availability of nearby landing fields for the use of aircraft engaged in evacuation is desirable. Whenever practicable, gen-

eral hospitals are grouped into hospital centers of two or more general hospitals to facilitate control and to consolidate administration and utilities. Each hospital center may contain convalescent facilities which normally have a bed capacity equivalent to 20 percent of that of the hospital center. In these convalescent facilities, patients requiring no further hospitalization but not yet ready for return to full duty are held until recuperation is complete.

d. Veterinary general hospitals and veterinary station hospitals function for the care of animal casualties in a manner closely paralleling that prescribed for personnel, except that final disposition of the animal is made within the communications zone. Evacuation of animal casualties to the zone of interior is not contemplated.

207. EVACUATION. Evacuation of the combat zone is the responsibility of the communications zone commander. The armies of the combat zone notify communications zone of their evacuation requirements, and communications zone provides the necessary personnel and transportation for surface evacuation and arranges with theater air force for the provision of necessary personnel and aircraft for air evacuation.

a. Medical holding battalions are mobile units designed to move casualties from evacuation hospitals to railheads, airfields, ports, and beaches, and to care for these casualties until they are evacuated. Medical holding battalions operating in the combat zone normally are assigned to army. In the event these

army units are inadequate, communications zone holding units may be employed to assist in the task.

b. Where transport aircraft are used for the evacuation of patients from the combat zone to the communications zone, air transportation and the care of the patients in flight are the responsibility of the theater air force commander. The movement of the patients to, and the loading of patients on, airplanes in the army area are responsibilities of the army commander (see par. 209). For further details as to technique of operation, see FM 8-35.

c. In the initial stages of amphibious operations, evacuation is accomplished in accordance with the general principles following. Casualties occurring en route to landing beaches and on landing craft will remain either aboard the ship or craft, or be transferred to appropriate ships for care and evacuation. Special assault type landing ships are provided and staffed for use as floating hospitals for the care of patients pending transfer to hospital or other ships. During the initial phases ashore, casualties are collected and treated by the shore party medical service and then evacuated from the beaches by landing craft designated by the beachmaster to meet existing requirements. When it is anticipated that enemy resistance to a landing will be sufficiently strong to cause casualties to craft en route to and from the assault beaches, specially manned and equipped craft known as "medical boats" may operate off the beaches to treat casualties occurring in other craft hit by enemy fire. Casualties evacuated by craft from the

beaches are transferred to hospital ships (AH or APH), specially fitted and designated landing ships (LST (H)), or other ships. When amphibious brigades are employed during the initial phases ashore, casualties are collected and treated by the organic medical battalion, and then evacuated by landing craft which may remain either in the vicinity of the beaches whence wounded are evacuated by hospital ship, or moved to rendezvous points where patients are transferred and evacuated by hospital or other ships.

208. SURFACE EVACUATION. a. Surface evacuation from the combat zone is the responsibility solely of the communications zone commander. Depending upon the geography of the theater, the predominant means of surface transportation employed in evacuation may be shipping, railways, or motor vehicles. Where railways are available, they constitute the best form of surface transportation for evacuating patients. Hospital trains are assigned to communications zone and their movement is controlled by whatever agency controls other railway movements. A medical regulating section, generally established as part of the surgeon's office, controls all evacuation from the army. The medical regulator is furnished daily (or as often as necessary) reports from army as to the number, types, and locations of patients requiring evacuation from the army area, and reports from the surgeon, communications zone, as to the number and location of beds available (usually in general hospitals) to which patients may be evacu-

ated. From the information contained in these reports, the medical regulator prepares train schedules in coordination with other staff officers and advises army and the hospitals in the communications zone of the time of arrival of the trains. A bed credit in a specific communications zone hospital is of little use to the medical regulator unless it amounts to at least 300 beds (enough to accommodate one trainload of patients). Evacuation from the combat zone by motor convoy or shipping is handled in a similar fashion. When no medical regulating section is established, the duties of the medical regulator are performed either by a representative of the communications zone surgeon in coordination with the communications zone transportation officer or delegated to the advance section surgeon and transportation officer.

b. Surface evacuation of the communications zone is the responsibility of zone of interior agencies. The responsibility of the communications zone commander ceases when the patients and necessary supplies and personnel for their care are loaded aboard the transportation being employed for such evacuation.

c. During amphibious operations, evacuation by ships and landing craft is utilized to the utmost, and is supported by air evacuation when landing strips are established.

209. AIR EVACUATION WITHIN THE THEATER OF OPERATIONS. Air evacuation within the theater of

operations is the responsibility of the theater commander. He directs subordinate commanders to assume their proper responsibilities to insure the operation of this service.

a. Theater air force commander provides necessary planes and medical attendants for casualties when in flight.

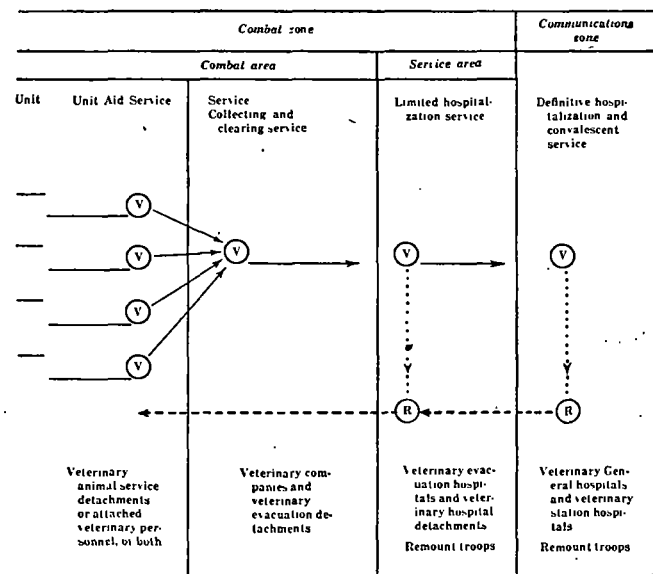
b. The army surgeon is held responsible for the selection of cases to be evacuated by air transportation of these cases to forward airfields at the proper time, and for loading on aircraft.

c. The communications zone commander is responsible for the reception of patients at the rearward airfields and for the distribution of these patients to communications zone hospitals. The communications zone commander continuously forecasts the requirements for air evacuation in order that plans for this service may be made in advance. The time interval of the forecast depends upon the operational conditions of the theater. Control of these patients normally is maintained by the medical regulating section as outlined in paragraph 196.

d. Due to the nature of air operations, aircraft used in air evacuation frequently are unable to make property exchange when receiving patients at forward stations. Remedial action to correct the resultant shortages of blankets, litters, and splints is the responsibility of the theater air force commander.

210. AIR EVACUATION TO THE ZONE OF INTERIOR.

a. Air evacuation to the zone of interior rests with the Military Air Transport Service as a major re-



—Evacuation: All movements are performed by veterinary companies or veterinary detachments, usually by truck or motor ambulance

—Return to duty: Movements normally made by remount troops.

V—Veterinary units.

R—Remount units.

NOTE.—Evacuation policy is established by the theater commander. Animals requiring more than a few days for recovery are normally evacuated to the service area. Those requiring several days for recovery are usually evacuated to the communications zone. In the best interests of the patient, animals should never be evacuated any farther than is necessary in the maintenance of mobility in front-line units.

Figure 26. Veterinary evacuation and hospitalization in theaters of operations.

sponsibility, but communications zone must arrange for the delivery of patients to the airfield and for their proper care until they actually are placed aboard the aircraft.

b. The medical regulating section at ports of embarkation must develop close coordination and proper liaison between the evacuation personnel of the Military Air Transport Service, appropriate staff officers, and the medical regulating section, communications zone, to insure a smooth, continual flow of patients from the theater.

Section IV. VETERINARY

211. VETERINARY PERSONNEL AND VETERINARY UNITS (fig. 26). Veterinary personnel and veterinary units may be attached to such headquarters and organizations as are necessary to coordinate and conduct the veterinary food inspection service and veterinary animal service for the command.

212. TYPES OF UNITS. There are four general types of veterinary units: veterinary animal service units whose mission with animals is comparable to that of the regimental medical company with men; veterinary evacuation units; veterinary hospitalization units; and veterinary food inspection detachments. Veterinary personnel or units also may be attached to furnish the necessary veterinary care and treatment of livestock, including captured animals, and to prevent and control all diseases affecting livestock in occupied territory and in other areas and countries where United States or allied forces are employed. Figure 26 shows the process of evacuating animal casualties, where large numbers are employed. When only a limited number are employed, the same process pertains but the pattern is altered to fit the

situation by using smaller veterinary units or combining small units of different types and assigning dual missions. This may be expedient due to the absence of remount units or to the inadvisability of evacuating casualties to the communications zone, as may be the case with war dogs or pack animals operating in isolated areas.

Section V. THEATER AIR FORCE MEDICAL SERVICE

213. GENERAL HOSPITALS. General hospitals for the Army and the Air Force are operated by the Army.

214. STATION AND FIELD HOSPITALS. Station and field hospitals are operated by both the Army and the Air Force. In those areas where one department can provide services to the other department, the department with predominant interest, as determined by agreement or direction, will provide station hospital accommodations for both Army and Air Force personnel.

CHAPTER 6

LOGISTICS—TRANSPORTATION

Section I. GENERAL

215. TRANSPORTATION. Transportation is the movement of personnel and supplies and includes the means of accomplishing that movement.

a. Movements are classified as tactical when surface contact with the enemy is a factor, and as administrative when such contact is not anticipated.

b. The personnel and supplies to be moved by a military transportation system include not only those of the military forces but also those of the civilian population to the extent to which the military commander has been given or has accepted responsibility.

c. The means of transportation available in any situation may include water, highway, railway, and air. The establishment of such means in the field creates lines of communications.

d. The success of combat operations is dependent directly upon the ability of the transportation system to support them. The limiting factor in planning often is lack of transportation. The transportation system therefore must be organized to make the maximum use of the means available. Its operation must be coordinated and controlled to give the flexibility

necessary to support tactical plans as the situation changes.

216. TRANSPORTATION SERVICE. A transportation service is organized in army, communications zone sections, and higher echelons. In division, similar functions are discharged by the logistics officer. The transportation service has technical supervision over the operation of all transportation assigned to its own echelon and that assigned to subordinate echelons. It coordinates and controls administrative movements made by means of such transportation. It operates all transportation assigned to the Transportation Corps of the echelon, but not that assigned to subordinate echelons. Administrative movements of units in their own transportation are subject to traffic regulation by the transportation service to the extent necessary to insure lack of conflict in the use of the roads. Normally, administrative displacement of units and the handling of supplies in small quantities are not subject to control or coordination by the transportation service.

a. Higher echelons assign to subordinate echelons of command means of transportation necessary for the operations of the subordinate echelons. As an exception to this principle and only when justified by the local situation, higher echelons may retain under their own control transportation means serving two or more subordinate echelons when the operating efficiency of such transportation would be impaired seriously if assigned to only one of the subordinate echelons or divided between them. An ex-

ample of this exception might be the retaining of control of the railway service by communications zone in order to serve all communications zone sections and combat zone.

b. Tactical movement is controlled by the operations officer on the commander's general staff with the assistance of the transportation officer. Administrative movements by all of the means of transportation assigned to the command, whether operated by the Transportation Corps or some other agency, are coordinated and controlled by the transportation service. Control is exercised only to the minimum extent essential to the commander exercising control, leaving all practicable discretion to subordinate echelons.

c. At each echelon of command, operation is a function of the service to which the means of transportation is assigned. Thus, all units operate their own organic transportation, unless pooled by higher authority (see par. 262). The Corps of Engineers operates the pipe line, the Military Air Transport Service operates air transportation, and the Transportation Corps operates water, highway, and railway transportation.

217. STAGING AREAS. Staging areas are established by the transportation service for the accommodation of troop units and transient personnel between moves over lines of communications. Usually, they are located within easy marching distance of terminals, transfer points, or normal stopping places, such as ports, rail terminals, airfields, or highways, over

which troop movements are expected. Facilities may vary from simple bivouac areas to organized establishments with covered shelter, mess, supply, and medical services. Provision must be made for both personnel and the equipment accompanying them. Often, provision must be made for reuniting troops with their equipment which has been shipped or provided separately.

a. Staging areas located near a port of embarkation provide for reception of troops prior to embarkation, and normally are responsible for the shelter and mess of troops, inspection and checking of units and personnel records, and issue of items of equipment to eliminate shortages.

b. When casualties are retained in staging areas for more than 2 or 3 days provision must be made for their training and recreation.

218. MARKING, PACKING, AND CRATING. The marking, packing, and crating of supplies, organizational equipment, and impedimenta in a proper manner are absolutely essential in order to enable the transportation service to discharge its responsibility for the expeditious and accurate delivery of those supplies and equipment.

Section II. WATER

219. OCEAN SHIPPING. Ocean shipping includes the following types of vessels: troop ships, troop-cargo ships, cargo ships, and tankers. Sources of shipping in the military service include vessels owned chartered, and operated by the military services;

vessels allocated to military services use by civil agencies; and vessels of foreign ownership used by agreement with the governments concerned. Military shipping requirements are based primarily upon the troops and cargo to be transported and the length of the sea route. Based on these requirements, priority in shipping allocations is given to theaters in accordance with their strategic importance. A theater commander may prescribe ports of destination for vessels en route to his theater and may divert such vessels to ports other than their original destination within the theater in event of changes in the tactical situation. A theater commander exercises complete control over shipping allocated for intratheater use. In a theater of operations, ship holding or diversion points may be established by the theater commander who exercises control through the theater transportation officer. Vessels entering the theater are held or diverted at these points and moved to destinations as discharge facilities become available.

220. PORTS. Ports include both ports of embarkation and ports of debarkation. Often, a port performs both functions and may change its primary functions during the course of operations.

a. Ports of embarkation located in the zone of interior are responsible for handling all theater requisitions on the zone of interior, calling troops and supplies forward to the port, loading and shipment of supplies and troops, and supervising military ocean traffic to oversea bases or theaters of operations. Debarking and staging of returning troops and un-

loading of returning supplies and equipment are performed by zone of interior ports.

b. Ports of debarkation located in an oversea base or theater of operations are responsible for unloading supplies and troops, and their clearance from the port area. They also may outload personnel and cargo for intratheater or intertheater shipment, or for return to the zone of interior.

c. Principal facilities and special equipment which may be used in accomplishing the mission of a port include protected anchorages, piers, wharves, petroleum discharge terminals, open storage space, warehouses, rail and highway terminals, heavy lift equipment, tugboats, harbor craft, lighters, amphibious trucks, vessel repair ships and shore based facilities, and ammunition discharge terminals.

d. Ports of debarkation are operated by the transportation service of the theater, communications zone section, or oversea base in which they are located. For administrative and operational control, an oversea port is organized into a headquarters and headquarters company to which are attached or assigned operating units which may include transportation truck, car, or bus units, port battalions, amphibious truck units, rail units, harbor boat and harbor craft units, and ship repair units. These units may be augmented by transportation composite units, civilian labor and transport, and the necessary service units such as quartermaster service units, military police units, engineer construction units, ordnance depot units, and others. Marine and other maintenance are the responsibility of the port to the limit

of available facilities. Construction is the responsibility of the engineer service. Subinstallations of an oversea port may include staging areas, hospitals, depots, subports, and outports. Factors to be considered in planning, development, and use of a port include port capacity (condition and size of piers), available local equipment, facilities and personnel, rail and highway nets, and other factors.

221. BEACHES. Beaches are used for landing personnel and supplies when ports are not available or their facilities not adequate.

a. The capacity of a beach to discharge and clear supplies and personnel to inland destinations often is a limiting factor in military operations. Utilization of the capacity of a beach, in turn, often is limited by the capacity of beach exits, and the amount of clearing equipment available. In prior planning, factors generally given consideration include approaches (including obstacles), nature of bottom and off-shore slope, areas chemically contaminated, logistical requirements of the forces involved, discharge capabilities of beaches and beach exits, obstacles, anchorage, tidal, and weather and surf conditions, road net, and areas suitable for organization as assembly areas and beach dumps. Special handling and floating equipment which may be used in the operation of a beach area include floating or land type cranes, floating piers, tugboats, harbor craft, lighters, amphibious trucks, and landing craft.

b. Principal units used in the operation of beaches include engineer, signal, harbor boat, harbor craft,

amphibious truck, quartermaster service, military police, and transportation truck, staging, and traffic regulating units. Beach dumps require the use of depot units.

222. COASTAL SHIPPING. Coastal shipping makes use of water lines of communications along a coast-line. In ocean areas, a coastal shipping service frequently is operated as an interisland service for the supply of small or isolated garrisons, or to supplement land transportation. Vessels are generally of small size, permitting access to port facilities not suitable for heavy ocean ships. Special facilities and equipment may include small cargo ships and troop transports, barges, and tugboats. Transportation Corps or civilian personnel are used, as available. Maintenance and operation of marine equipment and operation of the terminals are responsibilities of the transportation service, and rehabilitation or construction of facilities are the responsibility of the engineer service.

223. INLAND WATERWAYS. Inland waterways are limited in utility by their dependence upon the existence of lakes, canals, and rivers with sufficient channel to permit the passage of river shipping. A principal use of inland waterways is the routine movement of bulk supplies to free faster means of transport for high priority shipments. Inland waterway operating may include ferrying over bodies of water which are impracticable to bridge.

a. Factors to be considered in the planning, development, and use of inland waterways include seasonal factors such as floods, and the drying up or freezing of waterways; availability of local skilled personnel such as bargemen, pilots, tugboat operators, and Transportation Corps personnel trained in inland waterway activities; amount and condition of local equipment and facilities; the type of barges or craft suitable for the waterway; coordination with the engineer service, especially with regard to the construction of bridges; the removal of obstacles; determination of channel depth, width, and height clearances; development of suitable points for transfer of loads to other means of transportation; and inclusion of plans for the development of feeder rail or highway nets.

b. Inland waterway equipment and facilities include lighters, barges, tank lighters, towboats, shallow draft craft, and port and terminal facilities such as piers, wharves, lifting equipment, and marine maintenance shops. Ocean ports may be used as terminal facilities.

c. Traffic is controlled from inland waterway headquarters by limiting the dispatch of vessel from the terminal to insure that narrow channels are not obstructed by low priority movements and that discharge facilities are not congested. Dispatch is based on information as to the location and load condition of each vessel. Signal communication facilities between an inland waterway headquarters and its terminals are essential to control.

Section III. HIGHWAY

224. HIGHWAY TRANSPORT. Highway transport as used herein refers to the provision of a cargo and personnel hauling transportation service for the army and includes trucks, busses, passenger cars, and other miscellaneous vehicles intended for use on highways, roads, and streets.

a. Commands such as divisions, regiments, battalions, companies, and comparable air force units have organic transport for their local transportation needs. If sufficient organic transportation is not provided in the tables of organization and equipment, additional trucks may be provided either by the highway transport service, or from vehicle pools, if the additional transportation requirements are permanent. (For a discussion of vehicle pools, see par. 262.) Organic transportation, when engaged in local hauling, such as routine transportation of supplies between supply points and using units, operates under the commanding officer of the troop unit concerned in accordance with highway traffic regulation and control plans established by higher headquarters.

b. In larger commands, such as armies, sections of communications zones, and comparable air force units, the highway transport service operates under the transportation officer of the command, and consists of transportation units and such other services as may be required.

c. In the communications zone headquarters, a highway transport service is organized under the transportation officer for providing administrative,

planning, and supervisory personnel for the coordination and direction of highway operations. This service exercises operational control over highway transport within the communications zone except that assigned to subordinate commands. This occurs usually when intersectional highway operations are employed. This service provides transportation, supply, maintenance, communication, and such additional services as may be required. When a communications zone highway transport service operates into the combat zone, the communications zone commander is responsible for its operation and for coordination with the army commanders concerned for movement control, traffic regulation, and traffic control within the army area.

d. In appropriate situations where military requirements make it desirable, military highway operations may utilize civilian transportation organizations or equipment to supplement military transportation organization and equipment. Organizations and personnel generally consist of mechanics, drivers, and foremen who are needed in large numbers. Equipment may be of any type and may be required either to increase the cargo lift or because it is particularly adaptable to local transportation facilities and can be employed most effectively with local personnel.

e. Determination of the capabilities of highways to sustain the movement of supply transportation, and of the need for highway improvements for planned and projected operations is the responsibility of the traffic headquarters within the logistics section

of each division, corps, army, or other headquarters. Advice on highway capabilities and needs, as well as construction and maintenance of highways and the determination of materials, equipment, and personnel required therefor are responsibilities of the engineer service.

f. The highway transport service makes recommendations as to the type of vehicle which will operate most efficiently under various operating conditions and over available facilities.

g. For efficient and effective operation of highway transport, it is essential that detailed plans be prepared as far in advance as possible and that those plans provide for effective movement and traffic control.

225. HIGHWAY TRAFFIC REGULATION AND CONTROL (fig. 27). **a. Function.** Military highway traffic regulation and control consists primarily of coordinating and controlling movements of vehicles, animals, troops, and civilians over highways, streets and roadways within traffic terminals, in conformity with the tactical situation and military needs. These objectives are attained through the coordinated efforts of the highway traffic regulation headquarters, military police, and the personnel of march units and convoys.

b. Definitions.

- (1) Highway traffic regulation headquarters exercises highway traffic regulation which is planning, routing, scheduling, and directing the actual use of highways by vehicles,

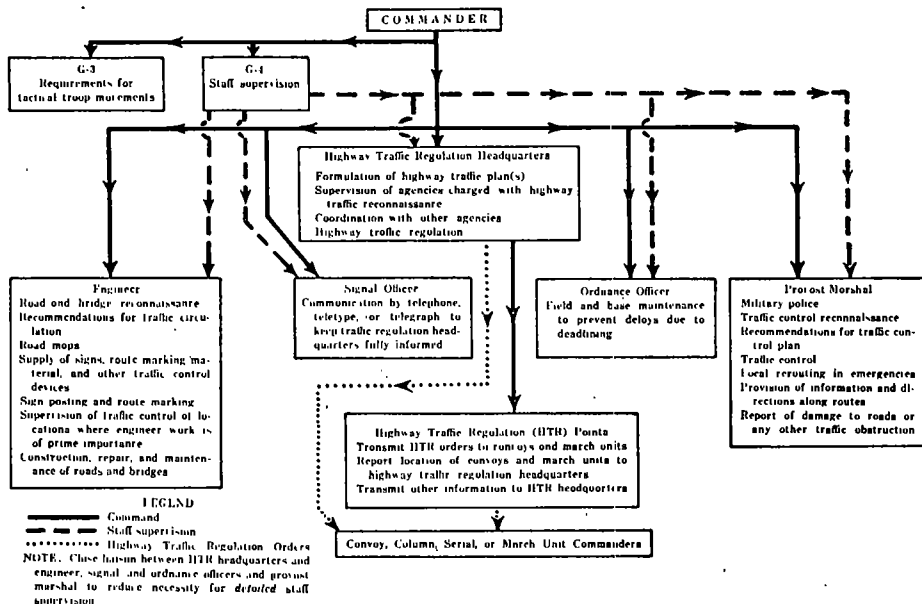


Figure 27. An organization for highway traffic regulation and control.

personnel afoot (including troops, refugees, and other civilians), and animals, to utilize highway transportation facilities and equipment most effectively, in accordance with assigned tasks.

- (2) The military police exercises highway traffic control which is the enforcement of the rules of the road and traffic regulations and road discipline, including spot direction.
- (3) The two forms of external control exercised by highway traffic regulation headquarters and military police are supplemented by organizational control, which is the regulation exercised along the route of march by the organization or unit responsible for the operation of the transport, or commander of troops making the movement. To such extent as is not prescribed by higher authority, organizational control includes fixing the speeds and spacing of vehicles, adherence to schedules, discipline at halts, protecting the column, providing traffic control personnel at points of doubt or congestion, supplying guides and guards, and mastering any emergency situation which may develop. Such details as are provided by highway traffic regulation are effected by organizational control.
- (4) Area control is the regulation exercised over all highway traffic moving within or through a given area by that personnel of the area command, which is organized as a highway

traffic regulation headquarters, or on its routes or in its areas. Where there is a Transportation Corps special staff section, part of the functions of the traffic headquarters may be assigned to that section. Where there is no Transportation Corps special staff section, the traffic headquarters in the logistics section of the staff of the commander concerned will discharge its function. In all cases, the highway traffic regulation headquarters operates under the supervision of the appropriate logistics officer, who is the means by which the commander coordinates and supervises all agencies concerned with highway traffic, such as highway transport service in its exercise of highway traffic regulation, the provost marshal (military police) in its exercise of highway traffic control, the signal officer in providing necessary communication, the engineer in construction and maintenance of roads, and the ordnance officer in the provision for field and base maintenance of vehicles.

- (5) Movement control is discussed in paragraph 240.

c. Traffic problem. The movements of tactical units and of vehicles engaged in supply and evacuation involve use of roadways and terminal facilities under conditions subject to rapid and unpredictable changes. When the road net is extensive and traffic flow relatively light, the traffic problem is comparatively simple unless complicated by enemy activity.

However, when the road net is limited or when flow is heavy, the need for coordination and supervision becomes correspondingly greater and detailed highway traffic regulation may be necessary. This need is intensified when traffic is subject to enemy attack, especially mechanized or air attack. Under such conditions, usually it is necessary to assign priorities to movements in order of their relative importance, specify routes, schedule movements, limit traffic densities, and provide field supervision to insure that movements are executed in accordance with the requirements of the situation.

d. Relationship to combat operations. In combat operations, a numerically superior foe often may be outmaneuvered and defeated by a highly mobile opponent able to concentrate superior forces swiftly at a decisive point. Efficient traffic regulation and control insures that the inherent mobility of modern means of highway transport is exploited to the utmost. On the other hand, failure properly to plan, regulate, and control highway traffic may result in loss of essential freedom of action, immobilize troops and supplies, and seriously jeopardize the success of combat operations.

e. Organization. Organization for highway traffic regulation and control is shown in figure 27. In its exercise of staff supervision in traffic matters, traffic regulation headquarters requires such reports, and makes such inspections as may be necessary to insure efficient traffic operation. Prompt reports are required from the highway traffic regulation points, military police, engineers, or column commanders on

all changes in road net, or emergency rerouting or other divergence from approved plans, or progress of scheduled movements, and on other traffic matters as directed. Traffic regulation headquarters takes immediate steps to coordinate traffic as required by reports of either changes, in the traffic situation or emergency measures taken in the field. New or amended orders are conveyed promptly to column commanders, military police, engineers, and other agencies affected by these changes. Factors to be considered in planning area traffic control are as follows:

- (1) The purpose of traffic control is to promote free and orderly movement of traffic with a minimum of interference with users. Traffic headquarters is charged with the receipt, correlation, and dissemination of traffic information.
- (2) Routes may be classified in accordance with the degree of control that may be necessary, as open, supervised, dispatch, or reserved routes. An open route requires only organizational control. Supervised routes are designated when traffic requirements are not heavy and adequate area control can be exercised by means of military police traffic posts and patrols. A dispatch route is a roadway over which full control is exercised both as to priority of use and as to regulation of movement of traffic in space and time. A reserved route is one that is set aside for the exclusive use of a design-

nated unit, a specific type of traffic, or a specific purpose, and requires a high degree of military police traffic control to block access to the route by unauthorized movements. In designating reserved routes, the period of reservation is stated definitely and is only as long as required for the specific purpose.

f. Purpose. Highway traffic regulation on dispatch routes is exercised to attain two results.

- (1) To keep supply and other movements constantly under such control that the requirements of changing tactical situations can be met without delay. This makes it necessary that highway traffic regulation headquarters know the location of each convoy or other unit at all times. It is accomplished through careful routing and scheduling of such movements, and through regular reports made to highway traffic regulation headquarters by highway traffic regulation points established along the route.
- (2) To prevent traffic congestion and confusion. This is accomplished through the regulation exercised by highway traffic regulation headquarters and the military police traffic control which enforces these and other regulations, exercises spot direction, and acts to meet local emergencies. In meeting such local emergencies, the military police meet the situation with a minimum of changes in

original routings and schedules and report the situation and action without delay and by fastest means to the nearest highway traffic regulation point. When practicable, military police secure instructions through the nearest highway traffic regulation point before making material change in routing.

g. Highway traffic plans: A highway traffic plan is a basic plan for highway traffic regulation and control, which insures progressive and continuous adaptation of road movement to the changing needs of the situation. The more important principles governing highway traffic planning include the following:

- (1) Highway traffic regulation and control should be imposed only to the minimum degree which will insure an orderly and effective flow of supply and personnel. Too much regulation or control prevents flexibility.
- (2) The plan must be based on material which is as complete as available information permits. Important elements of information include the tactical and supply plans, enemy capabilities, troop units, supplies, equipment available for implementing the traffic plan, weather, technical data on the existing highway types and conditions, data obtained from photographs and maps, and estimated traffic loads.
- (3) Priorities are determined by command decision.

- (4) Troop movements normally are given priority over supply and evacuation movements, but it must be realized that there may be times when supply takes precedence. For example, it may be more important to get ammunition to troops in action than to provide reinforcements.
- (5) Forward movements normally have priority over rearward movements.
- (6) Crossing of traffic lanes should be avoided if possible.
- (7) Advantage may be gained by segregating traffic by types and providing each type with separate routes.

h. Planning phases. Although there are no definite lines of demarcation between planning phases, planning procedure may be divided into overlapping steps as follows:

- (1) Information needed for planning includes a complete understanding of who or what is to be moved; how, when, from-where-to where, and why; highway capacity; policies, priorities, and restrictions imposed by higher authority; existing traffic flow; time available for movement; tactical and protective limitations imposed by enemy capabilities; the need for secrecy; and the availability of traffic control personnel.
- (2) The estimate of a particular traffic situation includes an evaluation of available information, analysis of possible lines of opposing action, and study of the various

possible means of accomplishing the traffic mission. On the basis of this estimate, a decision as to the broad basis of the traffic plan is reached. Continuity of traffic operations is achieved by coordinating current and contemplated actions. Because a military situation may change rapidly to one requiring another course of action, broad traffic plans to meet possible eventualities are prepared in advance and kept up to date. Prior to occupation of a new area by advance, attack, or landing operations, thorough preparation of provisional plans for engineer reconnaissance, road repair and construction, and traffic circulation and control is essential. Active defense calls for continual adjustment of traffic plans along lines adopted to meet the hostile attack. When the probable necessity for retrograde movement is recognized, previously prepared general plans are developed in as complete detail as time for reconnaissance, planning, and execution permits.

- (3) The plan for traffic circulation includes routes, direction of movements, and reservation of or restrictions placed on certain roads, including weight restrictions on bridges.
- (4) Routes are classified according to the degree of regulation and control exercised and restrictions imposed on their use.

- (5) Traffic scheduling is a means of assigning routes, making a time apportionment of roadway use, fixing time of arrivals or departures from points en route, insuring of traffic priorities, coordinating arrivals and departures, preventing traffic congestion, controlling speed, and limiting densities.
- (6) Necessary protective measures attainable by routing, scheduling, limitations on traffic density, and the use of lights, secrecy, and similar means are included in traffic plans. Recommendations are made to the area commander regarding measures needed for protection of traffic within the area.
- (7) Signal communication is planned to provide coordination and control of movements and of the agencies concerned.
- (8) The preceding phases culminate in orders which initiate traffic operations. Broad general orders are issued at the highest level of command. They may prescribe through routes, set forth theater-wide standing operating procedures and prescribe methods for coordinating movements between the communications and combat zones. Supplemental orders, progressively in greater detail and consistent with those of higher authority, are issued by successive lower levels as required.
- (9) The highway traffic regulation and control plan is checked to insure that it permits all traffic missions to be consummated with

maximum security, speed, and comfort commensurate with tactical requirements, and minimum interference between columns. Provision of signal service, in addition to that organic to regulation and control units, is the responsibility of the signal service.

i. Emergency operations.

- (1) Adjustments of traffic routing and scheduling frequently are necessitated by changes in the tactical situation, damage to roads, or traffic congestion. In instances where a break-down of the traffic plan can be anticipated, and if the road net allows, alternate plans are prepared to meet such an emergency. These plans may involve rerouting, rescheduling, and reassignment of control personnel. Alternate plans are drawn up in such detail as is practicable and go into effect immediately on occurrence of the emergency they are designed to meet.
- (2) Traffic emergencies which cannot be anticipated or for which no plans have been made may require immediate solution in the field. Under such conditions, military police assist column commanders to take necessary immediate action. Movements are not delayed awaiting or seeking orders from higher authority. The decision as to the action to be taken is made by the column or unit commander. However, information and recommendations provided by military police traffic-control personnel are given

careful consideration in making this decision.

- (3) Reports on emergency traffic situations and actions taken are transmitted immediately to traffic headquarters, normally through highway traffic regulation points. This permits progressive adjustments of traffic plans throughout the affected area. Changes resulting from the emergency and from subsequent modification of plans by highway traffic regulation headquarters are communicated to highway traffic regulation points and military police control personnel as soon as possible in order that they may make necessary modifications in their local handling of the emergency. Column commanders and others affected are likewise notified.

j. Communications systems. An adequate system of communication must connect highway traffic regulation headquarters with highway traffic regulation points and military police control points because the characteristics of military traffic and the conditions under which it operates require that supervision over movements be coordinated at all times and that traffic headquarters, column commanders, and regulation and control personnel be abreast of traffic conditions and changes in plans affecting their operations. Similarly, highway traffic regulation points and important traffic control points and patrols must be interconnected. The system must be dependable under all conditions and permit rapid transmission of messages. Two-way communication is provided,

and the equipment used must be of a type that quickly and easily can be extended or moved to new locations. Whenever practicable, alternative, dissimilar systems of communication are made available to insure against total disruption if one were to be put out of service. Applicable systems are indicated as follows:

- (1) Radio is desirable in that it can be placed in operation quickly and provides instantaneous two-way communication. However, its use is limited in certain instances because of secrecy requirements, poor transmission conditions, and possibility of interference by enemy radio activity.
- (2) Wire systems are applicable to traffic communication in that they provide for rapid interchange of messages and are not tapped readily by the enemy. The principal disadvantages are the comparatively long time required to put the system into operation and the difficulties of maintaining service during periods of bad weather or heavy enemy activity. Telephone, telegraph, or teletype systems may be used, with telephones having the advantage of not requiring specially trained personnel for their use.
- (3) Messenger service as the sole means of communication is not rapid enough for general use with motor traffic, but is employed in conjunction with other means. Messengers are provided with suitable transportation. Airplanes may be used over long distances; 1/4-ton trucks, motorcycles, or bicycles are

useful in moving through traffic jams on the road.

- (4) Air-ground communication may be established by radio, loudspeakers, dropped and picked up messages, or panels. (See TM 1-465.)

226. CROSS COUNTRY TRANSPORT. Cross country transport may be accomplished by mechanical means such as tracked vehicles, amphibious vehicles, narrow gage railways and aerial tramways; animals, such as mules, horses, elephants, camels, oxen, and dogs; and portage by soldiers or civilians.

a. Mechanical means of transport require specialized design for operation over mountains, plains, deserts, swamps, water, or snow, respectively. When available, mechanical means are preferable to the use of animals or men.

b. The more important means of animal transport include pack and sledge transport. The mission of pack transport is to transport loads on backs of animals over terrain which is too difficult for wheeled or track-laying vehicles. Pack transport provides reasonably rapid, quiet, and reliable mobility in mountains, jungles, and other terrain unsuitable for vehicular transportation. Its success depends largely upon the careful selection and training of personnel and pack animals. The employment of correct packing and march techniques is essential. (For details of techniques, see FM 25-7.) The physical condition of animals is impaired materially by long rail, truck, or boat trips; consequently, the need for pack trans-

port must be anticipated sufficiently in advance to permit proper conditioning of animals prior to their employment. A change from motor transport to pack transport requires a complete reconsideration of logistic factors due to the relatively small tonnages and short turnaround that can be handled by pack transport, and the increased requirement for transportation personnel.

c. Sledge dogs are a reliable means of surface transportation over land and sea ice in Arctic regions. Fast dog teams may be used in emergencies to transport relief expeditions, the sick, and medical supplies, and to assist in the rescue of airplane crews that have been forced down in Arctic regions. Freight teams, using heavier, slower dogs, are utilized for the routine hauling of equipment and supplies. For details on dog transportation, see FM 25-6.

d. Man-handling of equipment and supplies over long distances is wasteful of personnel and is used as a last resort. Large numbers of native porters are required to support even a small operation.

Section IV. RAILWAYS

227. GENERAL. a. In general, the military railway service of a theater of operations includes all railways constructed, maintained, or operated in support of United States or allied forces, whether by military personnel or civilians under military direction. When available, railways form the backbone of the transportation system in a theater of operations.

b. The railway system is divided for maintenance and operation into a number of railway divisions approximately as in civil practice, each under the control of a division superintendent. To each railway division is assigned a railway operating battalion, including personnel necessary for maintenance of track and structures; light maintenance of equipment; and operation of trains, stations, and other fixed installations. From two to four railway operating battalions, together with the necessary shop battalions, normally make up a railway grand division, and the military railway service is made up of one or more railway grand divisions. The division superintendent reports to the general manager, military railway service, except when his railway division is grouped with one or more others into a railway grand division under control of a general superintendent who reports to the general manager, military railway service.

c. The railway fixed equipment includes the necessary trackage, terminals, yards, stations, buildings, repair shops, and fueling and watering facilities. Railway equipment may be divided into three general classes: motive power, including locomotives; rolling stock including passenger and freight cars; and special equipment, such as pile drivers, wreckers, and special maintenance equipment. Maximum use is made of equipment and personnel from existing civilian railways. For operation between advance depots and railheads, it is desirable that the equipment be light to facilitate operation over light bridges and rough track. Light internal combus-

tion engines are well adapted for use in forward areas. Specially constructed hospital trains for evacuation of the wounded are desirable but, if not available, may be improvised by alteration of commercial equipment.

228. CONSTRUCTION AND MAINTENANCE. Construction and maintenance of railways in a theater of operations are functions, respectively, of the engineer service and the transportation service, except that major maintenance and repair are a responsibility of the Corps of Engineers. Responsibility for construction rests with the commanders of the communications zone and the armies, respectively, in their own areas. The great amount of time required for new railway construction makes it imperative that railways existing in a theater of operations be exploited to the utmost. Reconstruction of damaged lines requires less time than construction of new ones. The parts of existing systems likely to become bottlenecks are terminals and yards rather than main line tracks. For this reason, railway construction in a theater of operations consists mainly of extension of terminals, provision of yards and sidings at depots or other new military establishments, and reconstruction of main line track in the combat zone as the army advances.

a. After railways are constructed, minor maintenance in the communications zone and in the combat zone to the forward limit of traffic is the responsibility of the military railway service of the Transportation Corps, communications zone.

b. The construction of new wire circuits for the operation of railway communication is a responsibility of the signal service. Where such circuits are allotted exclusively to its use, maintenance is a responsibility of the military railway service. Where circuits are used jointly by the military railway service and other agencies, the maintenance is the responsibility of the signal service.

c. Railway shop battalions perform heavy maintenance of equipment at one or more large railway shops, usually located at important railway centers within the communications zone. A railway shop battalion is commanded by a shop superintendent. Unless the shop is assigned to a railway grand division, the shop superintendent operates directly under the general manager, military railway service.

229. OPERATION. Operation of railways throughout the communications zone, and within the combat zone to the forward limit of rail traffic is supervised by the general manager, military railway service. There usually is a shortage of railway rolling stock and of yards and sidings in a theater of operations and, for this reason, the tendency to hold supplies on cars in rolling reserve or to hold trains in reserve for possible troop movements must be strictly controlled. Such use of railway rolling stock is limited to that authorized by the commander of the theater of operations.

a. Responsibility of the military railway service for supplies begins when loaded cars are turned over

to the station master and ends when such cars have been placed on the siding for unloading at their destination. To provide security en route, personnel may be attached to the railway operating battalions to serve as train guards.

b. Commanders of ports, depots, railheads, or other supply points are responsible for loading and unloading in the minimum time practicable.

c. In a theater of operations in friendly territory, the railways may be continued in operation by their own officials, utilizing their peacetime organization augmented, as necessary, by additional personnel. Officers of the military railway service are assigned to each such railway as may be necessary for liaison and to assist civilian railroad officials in handling matters of a military nature. It may be possible for the railway system to continue in operation with its own civilian personnel to serve the needs of the civil population, with a military railway system superimposed to operate military trains required by military needs.

d. The commander of the theater of operations, on recommendation of his transportation officer, allocates to civilian railway officials certain terminal and other facilities for their exclusive or limited use, together with the privilege of operating a certain number of trains on the main lines each day.

e. Within the military railway service itself, operations may be decentralized to the railway grand divisions or down to railway divisions for routine movements, according to established policies.

Section V. PIPE LINES

230. GENERAL. Pipe line systems are designed to provide a means of transporting, distributing, and storing bulk liquids in theaters of operations. Pipe line equipment includes land and marine pipe lines, pumping equipment, testing equipment, and bulk storage facilities such as tanks and barges.

231. FUNCTION OF PIPE LINES. Pipe lines are used to make bulk deliveries of petroleum products or water as follows: over terrain too rugged for other means of transportation; to relieve congestion where road and rail capacity is limited and traffic is heavy; over long distances; over short distances, where conditions arising from enemy action make other means of transportation impracticable; and from ship to shore. Crude petroleum also is moved by this means from producing fields to shipping terminals or refineries.

232. LOCATING PIPE LINES. While military necessity is the most important factor in selecting the location for a pipe line, the following factors also must be considered: the most nearly level route is chosen and natural cover utilized and, whenever possible, the line parallels an existing road to facilitate construction, patrol, and security of the line, and its repair. Other factors permitting, the probable course of the campaign is anticipated with a view to selecting the shortest ultimate alinement.

233. PLANNING PIPE LINE SYSTEMS. Factors to be considered in planning pipe line systems include the following:

a. The principal users of large quantities of petroleum products are air forces, armored units, and large highway transportation battalions.

b. Although different grades of petroleum products can be transmitted by pipe line, a standardization of the products to be transmitted results in more efficient operations.

c. Flexibility of operation is attained by providing alternate decanting points and by providing cross lines connecting parallel systems.

d. Maximum use of local facilities, such as storage tanks and local personnel and petroleum distribution systems, saves time and results in personnel economy.

234. REPAIR AND MAINTENANCE. The engineer service constructs and performs major repair and maintenance on bulk storage tanks and constructs, operates, and maintains military pipe lines. It performs these functions for military petroleum pipe lines in collaboration with the quartermaster service. The quartermaster service has over-all petroleum responsibility and issues petroleum products. The transportation service, in collaboration with, and as required by, the quartermaster service, transports petroleum products by motor, water, rail, and air. The Signal Corps provides means of signal communication for control and operation of military pipe lines.

Section VI. AIR

235. GENERAL. **a.** Transportation by air between the zone of interior and theaters of operations, and between theaters of operations, is performed by the Military Air Transport Service. Transportation by air within the theater of operations is the function of the troop carrier command.

b. Air transport is characterized by great speed, comparatively low volume and tonnage capacity in relation to other means of transportation, unlimited choice of routes within its range, freedom from intermediate terrain obstacles, restriction to suitable landing fields, and vulnerability to air attack and ground fire. It is adaptable to movement of large units when time is the primary consideration, provided heavy and bulky equipment can be shipped by other means, supply of armored elements or other detachments operating at great distances from supply bases, and supply of units cut off or surrounded. Air transport success is predicated on air superiority or surprise, neutralization or avoidance of anti-aircraft fire, and ability to seize or prepare landing fields and protect them.

236. MISSION. Troop carrier units have the primary mission of providing transportation for glider and paratroop units, and the secondary mission of transporting supplies and personnel, including evacuation of wounded. (See par. 209.)

237. DELIVERY OF SUPPLIES AND EQUIPMENT. **a.** Supplies and equipment may be delivered by air

transport to the using units by means of airlanding, glider, parachuting, and free dropping. Airlanding is the most economical and expeditious means and should be utilized whenever possible. Gliders may be employed when suitable landing strips are not available to air transports; however, for planning purposes, gliders once used may not be counted upon for reuse. When fields are not capable of taking air transports or gliders utilizing their full capacity, paralanding of supplies may be used as a recourse for delivery. Packaging for paralanding requires considerable time, experienced personnel, and extra equipment. This system of delivery results in loss and breakage of supplies and also increases the vulnerability of the carrying aircraft to ground fire because of the slowing of speed and the lowering of altitude of aircraft at time of drop. Free dropping is the least economical means of air supply, and only certain types of supplies can be dropped owing to breakage. This method is resorted to in emergency only.

b. Theater specialized air freight units are formed, composed of personnel trained in packaging, loading, and delivery of supplies.

238. MOVEMENT CONTROL. Normally, movement control for air transportation is exercised by the air section of the theater Transportation Corps special staff section which executes priorities for the movement of personnel, supplies, and equipment established by the theater commander.

239. DOCUMENTATION. Proper documentation for air shipments is particularly important. The Military Air Transport Service and Troop Carrier Command have need of this just as has any other carrier, such as a railway.

Section VII. MOVEMENT PLANNING AND CONTROL

240. GENERAL. The movement of personnel, troop units, equipment, and supplies over lines of communications is discussed under two headings: movement planning, and movement control.

241. MOVEMENT PLANNING. **a.** The objective of movement planning is to fit the capabilities of the lines of communications to the demands of the users in accordance with priorities established by the commander.

b. At each echelon of command, prospective users of transportation, or their staff representatives, periodically submit an estimate of needs for transportation for a future period. Allocations of available transportation under the control of the command then are made in accordance with established priorities, and requests for allocation of transportation not under its control are submitted to the next higher command. The higher command, in turn, compares the demands of all of its users and makes allocation of available transportation in accordance with established priorities. The approved allocations specifying mode of transport form the movement plan for the command. This is the basic plan upon which the transportation service makes provi-

sion of the necessary means of transportation, and against which users are authorized to place requests for individual movements of personnel or supplies.

c. The movement plan must be balanced carefully to meet priorities established by competent authority, to meet all essential demands of users, and, at the same time, to conserve transportation and transportation personnel by utilizing return capacity, by avoiding delay due to congestion, and by using all available means.

d. Accurate estimates made by users are essential to the success of the movement plan.

e. Formulation of the movement plan insofar as specifying mode of transport is concerned, and supervision of transportation functions under the movement plan are a responsibility of the appropriate transportation officer.

242. MOVEMENT CONTROL. a. Movement control is the control exercised over the routing and movement of personnel, troop units, and supplies over lines of communications in conformity with the movement plan. This control is exercised in the field by Transportation Corps movement control units.

(1) In determining the appropriate method of transport in the makeup of a movement plan, the means of transport are arranged in order of military economy, as follows:

- (a) Water.
- (b) Rail.
- (c) Highway.
- (d) Air.

- (2) The *available* capacity of the most economical *available* means is utilized first, and utilized as far forward toward destination as possible.
- (3) Movement of freight by rail or water for distances less than 50 miles should be avoided if truck assistance is required for loading or unloading.
- (4) Highway transport is used best for short hauls.
- (5) Backhauling should be avoided.
- (6) Rehandling en route to final destination should be avoided.
- (7) Maximum utilization of transport mediums should be employed.
- (8) When routing shipments by any one means of transport, the shortest route should be taken.
- (9) In applying the principle stated in (2) above, judgment must be used in all cases.

b. Comprehensive control at staff level is maintained by visual controls (charts, graphs, etc.), based upon reports from Transportation Corps movement control personnel.

c. The chief obligation of the transportation service to movement control is to produce the available means of transportation at the time and place desired. The users are obligated equally. They must load and unload promptly, conform to moves as planned and scheduled, and release empties to transportation service control upon completion of their schedule.

d. Each transportation officer in subordinate army and communications zone commands in turn designates local transportation officers for zones, areas, or critical points on each line of communications under his control. These local transportation officers handle all dealings with local users, insure that the movement plan is carried out locally, make changes in the movement plan as directed by higher authority, keep track of the movement of means of transportation and of personnel and supplies being shipped, insure proper documentation, and render required progress reports.

e. On highway lines of communications, close co-ordination must exist between the highway traffic control organization (par. 225) which handles the physical direction of traffic on highways, and the movement control organization which orders the routing of motor transport over those highways in conformity with the movement plan.

f. Movement control over air transport is centralized in the air section of the office of the theater transportation officer, which deals direct with the air organization assigned to general air transport.

CHAPTER 7

LOGISTICS—SERVICE

Section I. MAINTENANCE

243. MAINTENANCE. Maintenance is the care taken and work done to keep any item of equipment in good condition.

a. Each technical service is responsible for technical supervision over all phases of maintenance of equipment issued by it. Technical supervision encompasses the issuance of technical maintenance doctrines, serviceability standards, catalogs, manuals, and other technical data essential to the effective accomplishment of the maintenance mission. The heads of technical services will make such technical inspections within the Department of the Army as they deem necessary to supervise properly the maintenance of equipment peculiar to their respective services.

b. Technical supervision is not to be construed as operational responsibility which embraces organization, management, administration and operation of a facility. These functions are prerogatives of command normally exercised by the arm, service, or establishment responsible for the maintenance mission.

c. Organizational maintenance (first and second echelon) is the responsibility of the unit commander to which the equipment belongs. It includes preventive maintenance and repair performed by the user of the equipment and by specially trained personnel of the organization. For example, in an infantry battalion, organizational maintenance on motor vehicles (ordnance equipment) is performed by organic personnel of the battalion.

d. Field maintenance (third and fourth echelon) normally is the responsibility of field commanders. It is performed by either organic or attached maintenance units of the division or field maintenance units of a higher echelon of command. Field maintenance includes any repair work which the unit or shop is capable of performing, provided it is not specifically prohibited. The repaired item is returned to the user.

e. Base maintenance (fifth echelon) is performed by technical service installations in fixed or semifixed installations under the theater commander or in fixed installations of the chiefs of technical services in the zone of interior. It consists of repair and rebuild of equipment, assemblies, subassemblies and component parts for return to depot stock.

244. PRINCIPLES OF MAINTENANCE. Principles of maintenance include the following:

a. The commander of a unit is responsible for the maintenance of his equipment. Organizational maintenances is his direct responsibility. He must

call on field and base maintenance organizations for other maintenance.

b. (1) Organizational maintenance is the keystone of the whole Army maintenance system, and failure in its performance seriously affects the entire maintenance system.

(2) Preventive maintenance is the most important and essential function of organizational maintenance. It includes systematic and periodic inspection, correction of incipient failures before they occur or develop into major defects and the servicing necessary to maintain equipment in a satisfactory operating condition.

(3) Commanders at all levels conduct spot check inspections within their own and subordinate organizations to insure the adequacy and efficiency of preventive maintenance within their command. Such inspections are performed on behalf of the commander by qualified individuals of the appropriate technical service.

c. Repairs to equipment are performed as far forward as is consistent with the tactical situation, time available, capabilities of personnel, and availability of spare parts and tools. This saves transportation and puts equipment back into operation in the quickest possible time. No echelon, however, performs the work of a higher echelon to the neglect of its properly assigned functions.

d. It often is more desirable to move maintenance personnel to equipment than to move equipment to

personnel. For this purpose, contact repair service is established, providing mobile repair parties consisting of mechanics with spare parts and special equipment. In addition to repair, these parties render all assistance possible by inspection, replacement, and technical advice on all items of equipment and serve as liaison agents between staff officers and the using troops. It is normal for maintenance units to give close contact service to supported troops.

e. An adequate supply of spare parts, assemblies, and tools must be available for maintenance units to operate at maximum efficiency. Each unit is authorized a supply of spare parts, assemblies, and tools commensurate with its maintenance responsibilities, and replacement of these items normally is accomplished through maintenance channels.

f. Maintenance units are disposed laterally and in depth to offer the best possible service to equipment being maintained. Maintenance units remain sufficiently close to units being served to give close contact support with due consideration to the tactical situation, terrain, road net, cover, and concealment. Insofar as practicable, nonorganic maintenance units support the same tactical units throughout an operation. This improves liaison, understanding, and cooperation between supporting and supported units.

g. Heavy maintenance shops and facilities, once established, remain in operation in the same locality as long as practicable without sacrificing service to supported units. This principle is particularly applicable to units performing base maintenance. In most cases, base maintenance service is moved for-

ward either by establishing new more-advanced shops or by leapfrogging rearward installations that no longer are useful in their former location.

h. Repaired equipment is returned either to the unit from which it was received, or placed in the supply channel for reissue.

i. Within their capabilities, service maintenance organizations may perform work on matériel other than that pertaining to their service. In emergencies, the nearest facilities are utilized, regardless of the normal responsibility for maintenance.

245. RECOVERY. Recovery is the collection and removal of disabled or abandoned matériel having a reclamation value pertaining to both enemy and friendly troops. The initial movement is to collecting points ordinarily at or near roadsides, or to maintenance and supply establishments for repair or return to service. Battlefield recovery is performed by combat troops supplemented, as necessary, by service troops.

a. Recovered matériel which cannot be used or repaired in the combat zone is moved promptly to communications zone installations where it may be disposed of, repaired for further service, or shipped to the zone of interior. Movement of recovered matériel primarily is the responsibility of service troops. However, all vehicles, combat or service, moving to the rear are utilized, where practicable.

b. Each combat unit effects the recovery and disposition of captured matériel in its area so far as practicable without diversion of essential strength

from its primary mission. Except for serviceable and immediately usable matériel authorized for retention and use, combat units normally do not retain or repair captured matériel. Most captured enemy matériel is, therefore, turned into the normal recovery channel of the appropriate technical service. Generally, the transport used in supply of the combat unit is used to move recovered matériel to the rear. Recovered enemy matériel which appears to be of new design or to contain new or different matériel is turned over to a specific staff officer of the appropriate service who, in turn, expedites its delivery directly to the theater of operations chief of technical service for technical analysis.

c. The exercise of sound judgment by all echelons is essential in determining what recovered items can be shipped profitably to the rear. Indiscriminate shipment of damaged matériel unnecessarily occupies scarce transportation, storage, and labor facilities. To this end, field maintenance resources of all technical services perform complete inspections of badly damaged matériel, condemn items that are not economically repairable in higher echelons, and such items are disassembled locally for the recovery and reclamation of essential and usable parts and assemblies.

Section II. ADDITIONAL SERVICE RESPONSIBILITIES

246. CHEMICAL SERVICES. Chemical services are provided in accordance with the following principles:

a. Decontamination is the responsibility of all units and is performed in accordance with instructions, technical advice, and equipment and materials furnished by the chemical service of the command. Large-scale decontamination of vital areas or installations is performed by chemical decontamination units, as required.

b. Processing (the impregnation and reimpregnation) of clothing and equipment in bulk for reissue is performed by chemical troop units. While processing of protective clothing for large numbers of troops in the field is performed by chemical troop units, for smaller numbers (5,000 or less) this service normally is performed by each unit for its own clothing just as for decontamination.

c. Chemical laboratories analyze enemy chemical, biological, and radiological munitions and equipment, and inspect and test United States equipment, including protective clothing.

d. Investigation of accidents or injury resulting from the use or storage of chemicals is performed by the chemical personnel designated by the chief of chemical service of the command concerned.

e. Chemical units are assigned for the support of units, installations, and operations in both the combat and communications zones. Chemical service units (T/O&E 3-500) are designed especially to perform all chemical services for small task forces.

f. All maintenance of chemical equipment, except organizational, is performed by chemical units or chemical installations.

g. Chemical intelligence teams conduct investigations of and make reports upon chemical, biological, and radiological activities.

h. The chemical officer of the command gives advice on and assists in the location, construction, and operation of gasproof shelters for troops and for civilians in rear areas.

247. CONSTRUCTION. Construction is a function of the engineer service. The commander establishes the general types of construction and the standards of accommodation. The using services are responsible for making known their general requirements for the construction of installations and facilities. The commander establishes priorities of construction based on the recommendations of the G-4, which are obtained by coordination with the general and special staff sections concerned. Based on these, the engineer service prepares detailed lay-outs and construction plans. The more important principles governing military construction in theaters of operations are as follows:

a. Using services must express their requirements well in advance of actual needs to permit procurement of the necessary construction material and supplies. Most of the supply items required are class IV and normally are not found stocked in the theater unless adequate plans have been made in advance of the need thereof.

b. The permanency of any structure erected should be only that consistent with military necessity at the time.

c. Existing facilities must be used to the utmost before initiating new construction.

d. Only the minimum facilities consistent with true military necessity can be provided. In view of the extremely heavy demands on engineer effort and the tonnages involved in construction, economy of construction is most important.

e. The design of each project makes allowances for possible future expansion.

f. Generally speaking, a large project is completed in units so the completed parts may be put to use while construction continues. Cases will arise, particularly in the combat zone, in which time is the most important factor. In such cases, economy of manpower is of less importance than time, and the project should be completed in the most practicable manner. Production line methods may be applicable in some instances.

248. REAL ESTATE. Real estate, including the acquisition and disposition of real estate, is a function of the engineer service and is accomplished in accordance with the Rules of Land Warfare, the Articles of War, and directives issued by the Department of the Army. The more important principles to be considered in connection with real estate activities are as follows:

a. It is essential to have efficient advance planning with respect to over-all requirements and allocations of areas and facilities between subordinate commands and services.

b. Control over all activities concerned with real estate acquisition and disposal is centralized in the engineer service. Free lance acquisition and disposal by the using agencies result in confusion and in inequitable distribution of facilities. The unit engineer is guided by policies laid down by the commander. The G-4 section is responsible for coordination between all using services.

c. The administrative organization for handling real estate acquisition varies with the situation. In an operation involving extensive acquisition, the administrative work involved in inventorying, contracting, payment, claims, and bookkeeping is extremely heavy; adequately trained personnel (including an engineer officer with legal training in large-scale procurement) therefore must be provided to handle this work.

d. The acquisition of real estate has a strong and direct impact on civil affairs-military government operations. For this reason, the engineer and civil affairs-military government services must coordinate their plans. Coordination of real estate requisitions frequently is obtained by the formation of an area real estate committee composed of representatives of the several commands concerned. Otherwise, resolution of conflicting priorities can be effected only by the command decision of the lowest headquarters exercising joint command over the agencies involved.

e. The operating agency is responsible for the final selection of real estate sites. The staff engineer acts only as staff adviser, requisitioning agent,

and office of record in carrying out command and theater policies.

249. QUARTERING. Quartersing is the provision and administration of shelter for a command including its personnel, headquarters, establishments, and supplies.

a. Shelter may be provided in the form of bivouac, where troops rest on the ground under no cover, improvised cover, or shelter tents; camp, where troops are under heavy tentage; cantonment, where troops are in temporary structures; and billets, where private or public buildings are occupied. Billeting is limited in the United States and its oversea possessions by the third amendment to the Constitution. In friendly foreign territory, local laws and customs apply. In hostile territory, billeting is resorted to as authorized by the theater commander. Type of shelter provided and location of quarters are governed by consideration of the mission of the unit, availability of areas and shelter, security, sanitation, training and other facilities, and comfort of the troops. For tactical considerations, see FM 100-5. Requisites for quartersing areas include adequate routes of communications to and within the area, protection against the elements, adequate supply of water, good natural drainage, firm dry soil, and freedom from sources of disease.

b. The administration of shelter is the responsibility of the commander having territorial jurisdiction in the area. Administration includes the allotment of quartersing areas and existing facilities to

using commands; the establishment of regulations governing the utilization of quartering areas and facilities by using commands; and the provision of facilities and utilities as may be necessary. The degree of administration exercised by the commander having territorial jurisdiction varies widely. In forward or remote, sparsely settled areas, practically all administration is performed by the using command. In congested or urban localities in the rear, the commander having territorial jurisdiction may set up headquarters for organized subareas for quartering which issue standing orders, insure compliance therewith, and provide signal communication, counterintelligence, construction, maintenance, utilities, and other facilities such as guard, police, medical service, entertainment, and mess.

c. The engineer on the staff of large territorial and area commanders handles the actual administration of the acquisition, maintenance, and disposition of real estate.

d. G-4 exercises general staff supervision over the acquisition, allocation, administration, and disposition of real estate and over quartering, except for allocation of shelter for the headquarters and allocation of quarters for personnel in the headquarters area.

e. G-1 exercises general staff supervision over allocation of shelter for the headquarters, and over allocation of quarters for personnel in the headquarters area.

f. When a command plans to move to a new location, quartering arrangements are made with or

through the commander having territorial jurisdiction over the new area. Advance preparations for quartering the command are made by a quartering party which consists of an officer from the staff of the command (called the quartering officer), a medical officer, necessary assistants, and representatives of subordinate units. The quartering officer for a headquarters unit usually is the headquarters commandant. The arrangements made by the quartering party are subject to the approval of the commander and of the proper authority in the area. They consist of the selection of areas and facilities for the command and an agreement on the responsibility for the details of administration. The quartering party then makes an allotment of areas and facilities to major subordinate units of the command, and reserves facilities for the administration of the command as a whole, such as headquarters, medical installations, and supply establishments. The senior commander of each allotted area or facility assumes responsibility for reallocation to subordinate units, local security, counterespionage measures, control of inhabitants, sanitation, use of local resources and utilities, establishment of signal communication, and other details necessary for prompt quartering of his troops under the general provisions of the quartering arrangements made between the quartering party and the commander having territorial jurisdiction in the area.

250. UTILITIES, CAMOUFLAGE, AND FIRE FIGHTING OPERATIONS. Engineer services pertaining to util-

ities, camouflage, and fire fighting (except aircraft fire fighting) operations are provided in accordance with the following principles:

a. Engineer utilities operations embrace the important functions of operating and keeping in repair and in efficient condition all buildings and structures and water, gas, electrical, and sewage systems. Engineer utilities teams are set up for these various purposes in T/O & E 5-500, but it is desirable to use local civilians whenever practicable.

b. Camouflage discipline is vital and is the responsibility of all commanders. Camouflage operations are performed by all units, the engineer service being responsible for technical advice and assistance and furnishing special camouflage materials. Maximum results are obtained by the best utilization of existing terrain features and employment of local, natural materials rather than by the procurement and utilization of extensive artificial camouflage. Camouflage must keep in advance of construction; in other words, camouflage before building. For special or large-scale camouflage projects, engineer camouflage companies or battalions may be utilized.

c. Fire fighting and fire prevention are the responsibility of all commanders. The engineer service provides technical advice and supervision and technical fire fighting units. The best means to avoid loss and damage by fire is through fire prevention. This requires frequent inspection, careful planning of new construction, and good fire prevention discipline. Therefore, the commander of each

installation prescribes fire drills for all units and standing operating procedures for a fire alert. Fire prevention and fire fighting plans are coordinated carefully with the passive air defense plans.

251. BEACH OPERATIONS. Beach operations normally are performed by amphibious brigades or combat units reinforced as necessary by service and labor troops. Careful detailed planning is required to make adequate provision for selection of landing beaches (based on study of underwater and beach obstacles, hydrography, and the tactical situation); beach and offshore clearance; access roads and dumps; boat loading and unloading priorities for troops, vehicles, and equipment; assignment of beaches; beach marking; traffic circulation; care and evacuation of wounded, and burial of dead; guard and evacuation of prisoners of war; signal communication system; and security of the beach area. Since the shore party commander controls the operations of the naval beachmaster, close liaison between these two officers is mandatory.

252. FINANCE SERVICES. Finance services are provided under the supervision of the theater army chief of finance who is charged with—

a. Procurement, custody, accounting, and disbursing of funds including—

- (1) Prompt payment of troops.
- (2) Payment for supplies purchased or requisitioned, for damages and claims, and for hired labor.

- (3) Securing reimbursement for public property lost, damaged, or destroyed through fault or neglect.
- (4) Securing reimbursement for shortages in public funds.
- (5) Preparation of estimates of funds required by disbursing officers.
- (6) Custody and administrative examination of financial records of disbursing officers.

b. Locating disbursing officers at advantageous points within the theater to insure prompt payment.

c. Inspection and audit of Army Emergency Relief funds and nonappropriated funds.

d. Audit of property accounts as may be prescribed by the theater commander. (See also par. 275.)

253. FISCAL SERVICES. Fiscal services are provided in accordance with the following principles:

a. Appropriated funds for obligation and expenditure within a theater of operations are made available to the theater army commander by oversea allocations by the Department of the Army Budget Division.

b. The theater fiscal officer is charged with the responsibility for—

- (1) Supervising or maintaining, in accordance with prescribed standards and procedures, fiscal accounting records pertaining to the status of appropriated or other funds received by or made available to the theater army commander.
- (2) Exercising necessary budgetary controls in

respect to the use and administration of such funds, including the performance of required audit functions in connection therewith.

- (3) Compiling and justifying the fund requirements of the theater of operations.
- (4) Compiling and certifying required reports in respect to fiscal or budgetary matters and operations.

254. MEDICAL SERVICES. Medical services, including those pertaining to the dental service, veterinary service, and certain medical professional services are provided in accordance with the following principles:

a. The dental service provided consists of periodic dental examinations of all troops; dental care, including (where necessary) the manufacture of dental prostheses; and dental professional service in hospitals. The echelons of dental care begin at division level (at regimental or battalion level for nondivisional units) and closely parallel those of medical care.

b. The veterinary service, in addition to the professional care, evacuation, and hospitalization of animals, performs food inspection functions, primarily on foods of animal origin. It also renders professional advice in the selection of animals to be procured for military use.

c. Other medical professional services include the physical examination of candidates for military service and for special military duties such as oversea

tours, flying, parachute jumping, periodic and special physical examinations and inspections of troops, and routine outpatient (that is, not involving hospitalization) medical care. This routine outpatient medical care normally is provided at dispensaries operated by medical personnel attached to the using unit such as a battalion or squadron. Units lacking such attachments secure this service from neighboring units or from general dispensaries operated by the medical service. Outpatient medical care includes such functions as daily sick call for all troops, emergency medical care, inoculation and immunizations, and the operation of dispensaries and prophylactic stations. The manufacture and repair of eyeglasses are accomplished by optical units of the medical service in support of this outpatient care.

d. Sanitation and preventive medicine require the services of all branches of the Medical Department. The primary responsibility of the Medical Department is limited to inspections and staff recommendations but certain medical units are employed to assist in this service; these include laboratories, food inspection, prophylactic, malaria control and survey detachments, and sanitary companies.

255. ORDNANCE SERVICES. Ordnance services pertaining to explosive ordnance disposal, ballistics and technical service, technical inspections and waterproofing are provided in accordance with the principles set forth below. Since maintenance is one of the major ordnance services rendered in the field, the principles of ordnance maintenance also are amplified as follows:

a. Ordnance maintenance is performed at two levels, field maintenance and base maintenance.

- (1) Within the combat zone, ordnance field maintenance is divided into direct and heavy support maintenance. Divisional ordnance service troops are of the direct support type. Army service troops render direct support to all nondivisional units, and provide all types of direct support units with heavy support facilities. Direct support units must be wholly mobile and must render close and constant support to using units. Army service units are assigned to ordnance battalion headquarters and headquarters detachments and maintenance and supply missions are established for each battalion. In forces of reinforced corps or larger size, ordnance battalions are further grouped into ordnance field groups. Army ordnance service troops as a whole make up the ordnance service of a task force or army and this service is under the operational control of the ordnance officer of the task force or army. Ordnance troops normally are not attached to tactical groupings such as corps or brigades except when such a unit is operating alone. When combat or service troops are transferred to or between armies, it is essential that the appropriate type and quantity of ordnance service units be transferred at the same time to preserve the proper ordnance support.

(2) Within the communications zone, using units are supported by ordnance service units specially designed for the purpose. Assignment of mission usually is on a geographical basis with units located according to troop density.

(3) Ordnance base maintenance is performed in the communications zone in support of all ordnance field maintenance within the theater. Such operations normally are carried on in fixed or semifixed shops and accomplish their mission by rebuild and production line methods. Full use is made of available local facilities and manpower.

b. Explosive ordnance disposal is performed by specialized ordnance teams whose mission is the removal and disposal of unexploded artillery shells, mortar and rocket projectiles, and unexploded or delay action bombs.

c. Ordnance fuze teams are provided to instruct and supervise troops in the use, handling, identification, and distribution of new fuzes.

d. Mobile ballistics and technical service teams are assigned to armies and independent task forces to measure muzzle velocities and calibrate artillery weapons for maximum effectiveness; to collect necessary data, and to render technical advice relative to the accuracy life of gun and howitzer tubes; and to render technical advice and reports on ballistics performance and effect of weapons and ammunition lots. Within base maintenance units of the com-

munications zone, similar organizations measure muzzle velocities and calibrate tubes of repaired artillery before shipment to the combat zone.

e. Continuous spot check inspection of organizational maintenance of ordnance equipment, technical inspections of ordnance matériel in the hands of troops before, during, and after combat, and technical inspection of ordnance matériel after repair to insure quality work, are performed continuously within all commands to cover all matériel of the command. Such inspections are performed by qualified technical personnel from ordnance service units under the direction of the appropriate staff ordnance officer. All inspections of ordnance matériel in the hands of troops are performed on behalf of the commander and with his approval.

f. Waterproofing of ordnance matériel for shipment is accomplished by ordnance personnel generally located at the port of embarkation. Waterproofing of ordnance matériel for amphibious operations is accomplished by each unit in accordance with ordnance technical instructions and advice, using materials furnished by the ordnance service.

g. Ordnance oversea maintenance modification teams are detachments from the zone of interior with the mission of introducing new ordnance matériel in the theater, assisting ordnance personnel in special maintenance problems, instructing ordnance personnel in the application of the more intricate modifications to ordnance matériel, and collecting and disseminating technical information.

256. QUARTERMASTER SERVICES. Quartermaster services pertaining to the maintenance of quartermaster clothing and equipment, decontamination of clothing, disinfestation by fumigation, bath and laundry, dry-cleaning, bakery, refrigeration, large petroleum drum manufacturing, drum repair and reclamation, cleaning, and filling, petroleum laboratory service, and sales stores are provided in accordance with the following principles:

a. Maintenance of quartermaster clothing and equipment is performed by salvage repair units, mobile; fumigation and bath units; and office equipment repair detachments. Repair of quartermaster matériel in the combat zone is performed by grouping quartermaster mobile type salvage repair units with laundry units and clothing exchange and bath units operating under the control of army. Quartermaster clothing and equipment is repaired for return to units for immediate use or to depots for restockage. Clothing contaminated with persistent gases is decontaminated by laundering. Mobile office machine repair detachments, operated under army control, act as contact repair parties for the repair of office machines. Quartermaster salvage repair units are located near quartermaster depots. In the communications zone, the bulk of the maintenance is performed by quartermaster salvage repair units operating fixed equipment, normally at or under the control of quartermaster depots. These units require additional labor which must be furnished from civilian or troop sources in order to operate at maximum capacity.

b. Fumigation, bath, dry-cleaning, and laundry service is made available to all troops. Special hospital laundry units of appropriate size and organization will be attached to operate fixed or semifixed laundry equipment in 500- or 1,000-bed hospitals. In the combat zone, a section or a platoon of a mobile laundry company may be attached to a hospital and move from one location to another with the hospital to which attached. Quartermaster units organic to the armored and infantry divisions provide only the minimum bath and laundry facilities for the troops of the division. In the combat zone, laundry units not attached to units or hospitals, and not organic to divisions, and clothing exchange and bath units normally operate under army control. In the communications zone, these services are performed by quartermaster units operating fixed equipment, normally under section control exercised through quartermaster depots.

c. Bakery units can operate in small teams and are located near class I supply points to save transportation and furnish troops with fresh bread.

d. Refrigeration in the combat zone usually is limited to refrigerated van service providing temporary storage for perishable items (foods and medical supplies). In the communications zone, in addition to refrigerated van service and semifixed refrigeration facilities, fixed refrigeration machinery installed and maintained by the engineer service normally is operated by quartermaster units to provide refrigerated storage space.

e. Large petroleum drum manufacturing compa-

nies are quartermaster units which normally operate in the communications zone and provide personnel and equipment to manufacture 55-gallon drums for petroleum products. Drum cleaning and filling units also operate in the communications zones and supplement filling, cleaning, and reclamation units in base petroleum supply companies. Mobile petroleum supply companies operating in forward areas also perform drum filling and cleaning functions. Base and mobile petroleum products laboratories are quartermaster units which normally operate under quartermaster depots and provide personnel and equipment to gather specimens and test petroleum products in the field.

f. Sales commissaries operate in the zone of interior under procedures prescribed in TM 10-215. Items authorized for sale, including subsistence, uniforms, and articles of personal equipment, are listed in current Department of the Army publications. Sales stores, both fixed and mobile, are established in theaters of operations. The theater army commander prescribes the items to be sold and the modifications of TM 10-215 under which these sales stores are to be operated.

257. SIGNAL SERVICES. Signal services, to include the operation of signal agencies, construction of signal facilities, and photography are provided in accordance with the following principles:

a. Signal service for command and control purposes is provided by units of the Signal Corps and supplemented by units of the using organizations.

The principal signal means for command and control purposes include messengers and visual, sound, wire, radio, radar, and other electrically operated signal communication facilities. Messenger service, including aircraft, motor, motorcycle, bicycle, mounted and runner, commonly is used for transmission of orders, messages, maps, and documents. Pigeons may be used to transmit short messages and overlays. Wire communication service, including telephone (with any associated radio relay equipment), telegraph, teletype, and facsimile commonly is used for discussions, messages, orders, and transmission of small maps and photos. Radio, including radiotelephone, radiotelegraph, radio facsimile and radioteletype, is used for messages, conferences, orders, and transmission of small maps and photos. Visual means, including lamps, flags, panels, pyrotechnics, smoke, arm and hand signals, and aircraft maneuvering, commonly are used for messages and orders, fire control, and prearranged messages. Sound, including horns, whistles, public address systems, and sirens, is used for warnings and prearranged messages. Radar and electronic means are used for warning, communication, and counterintelligence purposes.

b. Construction of signal facilities is performed by signal troop units. Full use is made of existing military and civilian signal communication facilities, including civilian operating and construction personnel. The common use of signal facilities by several units is desirable on account of the economy

effected, but requires coordination on a high level as to priorities and signal procedure.

c. Signal photographic units are assigned from theater and army levels to perform photographic missions normally down to division level, augmenting any organic photographic personnel when and where necessary. Photography is invaluable for tactical use, combat intelligence, and technical reports of all kinds, as well as for public information and historical documentation. Any unit commander may request photographic services for any official purpose through normal channels.

d. Signal film library detachments provide motion picture and film strip projectors and projectionist training; and motion pictures and film strips for troop training, information, and orientation.

Section III. MISCELLANEOUS SERVICE ACTIVITIES

258. SERVICE TROOPS. Service troop units may be divided into fixed strength units and cellular or specialist team units. Headquarters units of the fixed strength type, such as group or battalion headquarters and headquarters detachments, base depot headquarters and headquarters companies, and railway grand divisions are utilized for the administrative control of operating units and for the essential service operating overhead. Headquarters units of the fixed strength type may be augmented by units of the specialist team type. Headquarters units in appropriate cases may be made up entirely of specialist team units.

a. Fixed strength units may be divided into fixed type and mobile or semimobile type units. Fixed type units are designed primarily for use in the communications zone. In general, mobile type units are required for close support of combat troops, and are designed especially for use in the combat zone. Direct support of using units within the communications zone normally is accomplished by semimobile or fixed type units organized for the purpose. Tables of organization and equipment give the strength of the unit, its organization and equipment, and usually a brief statement of its functions and basis of assignment. The majority of the fixed strength units are best adapted for service of large forces or for major supply bases in dispersed theaters where large forces are involved.

b. Cellular type or specialist team units are composed of cells or teams as shown in the various composite tables of organization and equipment provided for each technical service and for some administrative services. Each separate column in such tables is a cell or team. Where different type teams from one branch are combined, the unit is called an intra-branch unit. Where elements of a unit pertain to more than one branch, the unit is called an inter-branch composite unit and is given a designation appropriate to the service rendered. Cellular type units have a wide variety of application. For small isolated forces, complete administrative support can be provided by a single interbranch composite unit. In the larger theaters, cellular units provide signal communication service for the various headquarters

and for all communications zone establishments as well as the station services discussed in paragraph 259. Combinations of fixed strength and cellular units can be utilized to advantage in large theaters or bases at establishments such as depots, ports, or staging areas. Cells from the various composite tables of organization are used to increase the productive capacity of fixed strength units where increments of less than company size are needed. The proper utilization of composite units eliminates the necessity of subdividing fixed strength units to serve on separate assignments. In forming composite units from the various cellular types, a single administrative headquarters can administer a unit of much greater strength than is practicable in the case of combat units. A platoon headquarters seldom will be needed in the case of a company size unit, and a headquarters seldom will be required to administer cellular units used to augment fixed strength units.

c. Selection of service troops for an operation or for expansion of existing service troops lists can be made only after a thorough study of the situation. Many factors must be considered, such as mission, supported strength, territorial area, terrain, climate, language, customs and attitude of civilians, potential enemy activities, lines of communications, local resources, prevalence of disease, and organization and mission of supported, supporting, higher, and adjacent units. Capabilities of service units are not rigid. Wide fluctuations may be expected in practice. Certain types of units may not be available. The work load must be determined for each phase of

the operation separately and units selected to build up from phase to phase. Coordination of build-up of service units is accomplished by the selection of fixed strength units which later can be reinforced by addition of cellular type units, or by the initial use of cellular type units which can be absorbed in units to come in at a later phase. It is essential that service operating overheads be provided initially, and expanded as troop strengths are built up.

259. STATION SERVICES. Station services are essential for normal operations at ports, depots, and other fixed theater installations because base type units are not self-sufficient. These services include units from most of the technical and some of the administrative services.

a. An engineer unit is assigned where buildings and utilities must be maintained and fire fighting is essential. A finance section is not required when finance service is on an area basis but, normally, such a section is assigned to large depots to serve the depot and other troops in a prescribed area. A medical dispensary or station hospital provides medical service for the installations. A medical dispensary normally is assigned to larger activities even though served by an area station hospital. Military police units are necessary to provide essential interior guard for major establishments operated by base type units. An ordnance unit provides field maintenance for motor vehicles and other ordnance equipment, as well as ordnance supply for the installation. Postal units provide postal service for the command. The station

quartermaster service usually includes a quartermaster supply and sales section, a labor pool, or personnel for control of civilian labor. Since general purpose vehicles and common labor are not included in the organization of base type units, labor pools and motor pools are essential. A signal unit provides the installation with message center, telephone, teletype, radio, signal supply, and such other signal services as may be needed. Transportation units provide engine crews for yard service at large ports and depots and less than carload lot freight service at large general depots. Transportation service also provides a motor pool. Engineer hospital utility detachments, quartermaster hospital laundry detachments, and military police hospital guard units are designed as station services for attachment to hospitals of various sizes. When necessary for military administration and housekeeping purposes, some or all of the station services may be grouped and organized into composite units.

b. Additional specialized units or detachments thereof, such as quartermaster bakery, laundry, and fumigation and bath units are attached, as required, when availability permits. Special service facilities for the entertainment of troops and chaplains to conduct religious services are necessary for the moral well-being of troops.

260. POOL. A pool is the combination of all or a part of the resources of several organizations under central control for common use or a specific mission. Thus, all units of a depot might pool motor vehicles

under a motor officer who would handle transportation missions for all organizations of the depot. Pools may be formed for vehicles, materials handling equipment, labor, or special types of services such as construction or maintenance. Pools may be formed within an organization, or between several organizations, or echelons of command. They have the advantages of insuring a more efficient distribution of the work load, and providing flexibility to meet peak demands. They have the disadvantages of depriving organizations of resources essential to the efficient accomplishment of their own mission, and of lowering morale and reducing administrative control by separating troops from their parent organizations. Also, vehicles required for a single type of service are utilized more efficiently when assigned to that service than when dispatched daily from pools. Pooling may be necessary as a temporary expedient, or on a permanent basis. Temporary pooling is used when logistical necessity exceeds immediate capabilities and additional means must be sought. An example of this is the pooling of all cargo vehicles of an infantry division to fill the gap caused by the failure of other means of transportation. Establishment of permanent pools may be required, as in the case of a large depot, where tables of organization and equipment do not provide the headquarters with common labor, materials handling equipment, or general purpose vehicles, and it is necessary to pool the supply of these items available in the component units and from outside sources. The situation dictates when pooling is desirable.

261. LABOR POOLS. Labor pools may be formed of service troops, civilians, prisoners of war, combat troops, or any combination thereof assigned for labor. The principal source of service troop labor is quartermaster service units. All combat units perform much labor in connection with combat operations, but combat troops are assigned service labor tasks only in the absence of sufficient labor from other sources.

a. In the division, there is no provision for labor. In the army, the nucleus of the labor pool consists of quartermaster service units (companies or battalions) used for general labor purposes.

b. In the communications zone, quartermaster service units are desirable as the nucleus of general labor pools, for depots and to supplement the more specialized labor furnished by engineer, chemical, and signal service units and transportation port companies. A careful study of the over-all labor requirements is necessary in order to make the best distribution of available labor. The labor needs of each installation must be analyzed in order to determine the amount of permanent labor necessary and the amount that can be furnished from a general labor pool to meet fluctuating demands.

c. Labor in handling ammunition should be performed by ordnance ammunition units, or by quartermaster service units supervised by ordnance personnel. It is desirable to make full use of available civilian and prisoner labor. For utilization of prisoners of war, see paragraphs 74 and 76. For more detail on civilian labor, see paragraphs 110 and 111.

262. VEHICLE POOLS. The organization of organically assigned vehicles into pools should be approached with great caution. When an urgent requirement exists for additional cargo transportation for the movement of supplies not normal to the mission of the unit, some of the cargo vehicles of several units may be pooled to accomplish the task. In organizing such a pool, it must be recognized that the normal capabilities of the units to accomplish their own missions have been reduced accordingly.

a. The principle of pooling vehicles is not limited to any arm or service or any type of transportation. In infantry divisions, the only vehicles that are earmarked for general cargo hauling are those of the organic quartermaster unit. However, except for ambulances and motor vehicles issued as an aid to the movement of active weapons, such as prime movers or weapons carriers, all trucks of any unit are considered as a pool of transportation to be used as required. The nucleus of vehicle pools for armies is formed by transportation truck units. Army truck companies may operate independently, be attached to army installations such as depots, or placed under the control of battalion or group headquarters and operate under the army transportation officer as desired. Another source for vehicle pools is engineer dump trucks, but these must not be diverted from their primary mission without careful consideration of the possible effect on engineer operations. In the armored division, all vehicles are given prescribed loads. However, with the exception of specialized vehicles, such as ordnance shop trucks, signal service

and engineer service vehicles, ambulances and surgical trucks, all vehicular loads of cargo vehicles may be dumped and these vehicles pooled and made available for other use when required by emergency conditions.

b. In the communications zone, as in the combat zone, the nucleus of the vehicle pool is the transportation truck units. Careful analysis of local vehicle requirements for each installation must be made to determine the need for permanently assigned vehicles and needs that should be filled by use of vehicle pools.

263. POOLING OF TROOPS OF A SERVICE. Pooling of troops of a service is advisable under some circumstances; for example, engineer services may be pooled. In general, it is desirable that each major organization (army, advance section, communications zone, and similar organizations) have its own engineer component under the control of the organization commander. This system provides for desirable decentralization which, in turn, usually results in rapid execution of the engineer mission. However, in some cases, considerations of economy of personnel, transportation, and matériel may dictate the pooling of all or part of the engineer services in any large organization under one engineer command. This system provides highly centralized control and over-all coordination of the engineer effort, and is adapted particularly to operations in a restricted area such as task force operations, the invasion of an island, or similar amphibious opera-

tions where air, ground, and service construction is executed in the same general area. Other examples are the pooling of several maintenance and supply groups into a service center.

264. INFANTRY DIVISION SERVICE ELEMENTS. Infantry division service elements include unit trains and division trains.

a. The unit train of each unit within the division includes all assigned vehicles required for administrative support of the unit. The unit train is divided into a combat train and a field train. The combat train consists of those vehicles such as ammunition, maintenance, medical, fuel and lubricant, and engineer, that are required for immediate support of the unit. The field train consists of kitchen, baggage, and administrative vehicles and the balance of fuel, medical, and maintenance vehicles not necessary for immediate combat support.

b. For convenience in designation, the division trains are assumed to consist of the various division service organizations, and the rear echelons of divisions headquarters with attached unit personnel sections. The technical service organizations of the division are under the direct command of the division technical service officer of the appropriate service. There is no division train commander nor is there a formal organization for division trains in the infantry division. Certain administrative duties in connection with division trains and the security of the division trains area usually are detailed in addition to other duties.

c. It is essential that the fighting area of the division zone of action be cleared of transportation, service personnel, and installations not immediately necessary to combat. Normally, combat and field trains are combined and sited closely in rear of their parent units. They are controlled by regimental and battalion commanders through their S-4's. The field trains may be disposed farther to the rear when the terrain or enemy situation dictates or for administrative expediency. Factors governing the selection of the location of the division trains area include the relationship to the area required for combat maneuver including suitable road net; the proximity of friendly troops and reserves; availability of supplies and services to the combat troops; location of terrain providing defilade, cover, and concealment; and suitable routes forward and to the flanks and rear. Locations are selected out of range of the mass of probable hostile light artillery fires.

d. The division service installations are located to perform best their respective missions and are not located necessarily in the division trains area.

265. ARMORED DIVISION SERVICE ELEMENTS. Armored division service elements include unit trains and division trains.

a. Unit trains are composed of combat trains and field trains as discussed in paragraph 264. Combat and field trains normally remain with the combat command concerned. Field trains may march and bivouac with the division trains when such a procedure is required.

b. The division trains headquarters of the armored division is organized to command and administer the division rear echelon. The composition of the division rear echelons with respect to service units is not fixed. Division service units are commanded by the appropriate division special staff officer, but such portions as may be located within the division trains area come under the control of the commander of the division trains for security and similar purposes.

c. The division trains area is located to facilitate the furnishing of supply, maintenance, and evacuation of the combat units and for other reasons as set forth in paragraph 264c.

d. The division service installations are operated by the division service elements, but may or may not be located in the division trains area.

266. AIRBORNE DIVISION SERVICE ELEMENTS. Airborne division service elements include the medical battalion, the ordnance company, the parachute maintenance company, the quartermaster company, the replacement company, and the band. The airborne engineer battalion and the airborne signal company have service functions in addition to their combat functions. For periods of sustained combat, the division may have an ordnance medium maintenance company and a quartermaster field service company attached.

a. All of these units are air transportable by glider or aircraft. When the airborne division makes an assault landing by parachute or glider, the service elements, with the exception of the parachute main-

tenance company, accompany the airborne division to the objective area. Normally, only the light transportation of the service elements is taken with the assault airborne echelon. The heavy transportation of the units is moved to the objective area either in the seaborne or ground echelon or by airlanded aircraft.

b. The quartermaster and ordnance companies are located in the division service area and operate their service installations there. The medical company may or may not be located in the service area. This area is located to further supply, evacuation, transportation, and service operations. The airborne division service elements are responsible for the recovery and distribution of the unit air supply in the objective area.

c. The rear base echelon of the airborne division consisting of rear echelon division headquarters the parachute maintenance company, and detachments of the service elements normally remains at the rear base area. When it is planned to mount an airborne operation from the new forward area, the rear base echelon may be moved forward either by air or by sea and ground means.

267. CORPS SERVICE ELEMENTS. Corps has very few organic service elements. Additional service troops are attached to the corps in accordance with its mission and with the number and types of divisions and corps troops to be supported. If corps is operating as a part of an army, its functions primarily are tactical, and a minimum of service elements are at-

tached. These minimum attachments often include medical units to render medical service to corps troops; engineer units for construction and maintenance of roads and bridges, both in the corps area and in support of the divisions; and transportation car and truck units to perform transportation missions beyond the capabilities of divisions and corps troops. Supply, hospitalization, and service for corps troops and divisions normally are provided by army installations designated to support the corps. If corps is operating not as a part of an army, its functions are both tactical and administrative, and service elements are assigned or attached as for an army as described in paragraph 268. Technical service elements assigned or attached to corps and not passed on to divisions are placed under the command of the appropriate chief of service on the corps staff.

268. ARMY SERVICE ELEMENTS. a. The army has territorial, tactical, and administrative functions. Since the field army is an administrative as well as a tactical unit, it must be organized to provide immediate logistical support for the army and air force units within the army area. The allocation of technical service units to an army is based on the total requirements for supply, evacuation and hospitalization, transportation, and service. Army technical service units may be attached to subordinate units or remain under army control.

b. An army technical service may be organized either to give logistical support to all units in a particular area, to operate along functional lines, or

to combine both of these two methods. As an example of area organization, all army ordnance maintenance units may be organized into battalions or groups having responsibility for all ordnance maintenance in a designated area. In this situation, when an ordnance maintenance unit is moved from one area to another, it passes to the control of the ordnance battalion or group responsible for maintenance in the new area. As an example of functional organization, in this same army ordnance service, all ammunition companies might be under an ammunition battalion or group headquarters charged with the operation of all ammunition depot and supply points in the army.

c. When the army requires additional technical service units, it requests them from the next higher echelon of command, either army group or theater. Upon the transfer of combat units between armies, a proportionate transfer of technical service units is appropriate.

CHAPTER 8

LOGISTICS—MANAGEMENT AND MISCELLANEOUS

269. MANAGEMENT. a. The principles governing the four major logistical operations of supply, evacuation and hospitalization, transportation, and service have been discussed in chapters 4, 5, 6, and 7 of part two. The coordination of these operations and their correlation with the strategical and tactical operations which they support constitute the function of logistical management. The principal activities pertaining to the discharge of the management function are—

- (1) Supervision over the logistical organization.
- (2) Preparation and maintenance of estimates of the logistical situation.
- (3) Preparation of logistical plans.
- (4) Preparation of the logistical parts of administrative instructions.
- (5) Supervision of the execution of the logistical parts of administrative instructions.
- (6) Preparation and utilization of logistical records and reports.

b. A logistical organization is set up within the framework of the territorial and command organizations described in chapters 1 and 2 of part one. At each echelon of command, responsibility for logistical operations rests with the commander. He is as-

sisted by his staff as indicated in chapter 3 of part one.

- (1) In divisions and in comparable and higher echelons, the G-4 on the general staff coordinates and supervises logistical operations from the staff point of view but is not in the chain of command. The G-4 performs duties and organizes his section as outlined in FM 101-5. The chiefs of technical services report directly to the commander, but deal with the appropriate general staff officer in regard to matters requiring routine coordination, cooperation, and advice.
- (2) In echelons below division which have no general staff, the functions of the G-4 and those of one or more of the chiefs of the technical services usually are consolidated in the office of the unit supply officer.

c. FM 101-5 presents general principles, outline forms, and examples to be used in the preparation of estimates of the situation, plans, administrative instructions, and records and reports. In any specific situation, the logistics officer adapts this general scheme of procedure to the logistical problems facing his commander. In particular—

- (1) He maintains, either mentally or in written form, a continuous estimate of the logistical situation and keeps himself constantly advised of changes in the situation and in the tactical or strategical plans to be supported. He continuously seeks out and formulates

the essential elements of logistical plans and weighs the ability of the command to give logistical support to current and future operations. He takes vigorous and timely steps to institute the action shown by the estimate to be necessary. He advises his commander on these points as required or as he deems appropriate.

- (2) He prepares, or causes to be prepared, plans to meet the current short-range and long-range logistical situations. He coordinates logistical plans closely with the other general staff sections.
- (3) He translates logistical plans into action by preparing the parts of administrative instructions necessary to put the plans into effect. He puts such instructions in the form of verbal directives, written messages, circulars, standing operating procedures, paragraphs in a field order, or formal administrative orders as are most suitable in the situation. Instructions may be detailed, or they may be merely a directive to put into effect a previously prepared plan. All such instructions are issued in the name of the commander.
- (4) He makes, or requires his assistants to make, frequent visits and inspections in the field to keep informed thoroughly on the situation, to verify that the commander's instructions are understood, to insure that operations are being carried out as intended, and to obtain

the views and recommendations of those charged with the execution of logistical operations.

- (5) He sets up a clear system of logistical records and reports which will furnish the information required by higher authority or which will be needed by his office for current operations, future plans, or historical purposes. He adapts the forms shown in FM 101-5 to fit the needs of the local situation. He designs the system to require a minimum of effort, particularly in the field. He keeps to a minimum the number of reports and the amount of detail in the reports. He avoids overlapping reports, and reports made at intervals more frequent than necessary. He analyzes reports from the field to evaluate their accuracy and to draw deductions which affect future operations. For these purposes and for the information of the commander and his staff, he maintains and analyzes progress charts and graphs on essential activities.

270. MISCELLANEOUS. Due to the nature of logistical operations, there are, in addition, many miscellaneous subjects with which logistical management becomes involved or relative to which logistical considerations are paramount. Instructions on these subjects may be included in paragraph 6, Miscellaneous, of the administrative order. Some of those subjects are discussed in paragraphs 271-275.

271. REAR BOUNDARIES. Rear boundaries delimit responsibility for territorial administration and serve as a basis for coordinating service operations. For a discussion of lateral boundaries, see FM 100-5.

a. The geographical limits of the theater of operations are designated by the Joint Chiefs of Staff. The rear boundary of the combat zone is designated by the theater army commander, normally on recommendation of the communications zone commander and the army or army group commanders concerned. Within the combat zone, army group normally decentralizes territorial control to its armies, thus making army rear boundaries usually the same as the combat zone rear boundary. Corps rear boundaries are designated by the army commander, and division rear boundaries by the corps commander.

b. Principles to be considered in selecting rear boundaries include—

- (1) Their location far enough to the rear to permit room for maneuver and to include suitable area for the location of service installations to carry out service operations of the command.
- (2) Their forward movement as soon as possible to relieve combat units of the administration of territory not required for their combat or administrative operations.
- (3) Selection of their location only after careful study of the road net and other routes of communications. It is desirable that corps have a good lateral road behind division

rear boundaries, and that army have lateral roads behind corps rear boundaries in order to facilitate lateral movements of troops and supplies.

- (4) Designation of easily recognizable terrain features such as roads, railroads, rivers, or canals.
- (5) Planning for their movement initiated well in advance and the decisions to move announced in time to permit reconnaissance prior to the actual date of transfer of territorial responsibilities.
- (6) Recognition of the fact that their location does not act as a barrier to service operations. For example, communications zone units such as Transportation Corps railway operating and maintenance of way units, normally operate forward of army rear boundaries in the accomplishment of their missions. Advance section with army cooperation may locate depots, administrative airfields, and other installations forward of army's rear boundary, and army, with advance section cooperation, may keep shops, rest areas, or other installations in rear thereof. Some army units and installations such as maintenance units, medical units, and supply points (railheads, truckheads, and ammunition supply points) often are located forward of corps and division rear boundaries. Army engineers normally maintain roads forward of the corps rear

boundary and corps engineers forward of division rear boundaries, permitting division engineers to devote the bulk of their effort to assisting the forward movement of the division. Army military police may control roads vital to army operations forward of corps and division rear boundaries and corps military police may control designated roads within division areas but, except for specially designated roads, normal control of movement and traffic within each area is the responsibility of the area commanders. Rail and inland waterway traffic and movement control are responsibilities of the communications zone commander to the forward limit of such traffic.

272. REAR ECHELONS OF HEADQUARTERS. Rear echelons of headquarters handle the details of administration. Frequent movement of rear echelons interferes with the performance of their mission. Once established in a suitable location, it is desirable to remain as long as efficient service can be rendered from that locality. A suitable location for a rear echelon is out of enemy artillery range, convenient to routes of communications from the forward echelon, laterally, and to the rear. A good interior road net and signal communication facilities both within the headquarters, with the forward echelon, and higher headquarters are essential. Cover and concealment and buildings having facilities such as heat and light are desirable. In selecting a location for

a rear echelon, advantage is taken of the location of other installations and units, particularly antiaircraft units, for the incidental protection afforded.

273. PROTECTION. Protection of rear installations and lines of communications from enemy attack, including area defense, is a command responsibility of the local territorial commander. Local defense of installations and the protection of supplies and matériel from theft, damage, destruction, or pilferage are responsibilities of the installation commander. (For detailed discussion of defense, see par. 128.)

274. BAGGAGE. Baggage includes organizational impedimenta and personal or individual baggage. The amount of organizational impedimenta is authorized by tables of organization and equipment and other tables and special authorizations, and is held to the minimum required for the accomplishment of assigned missions. If organic transportation is not available for organizational impedimenta, transportation must be provided from external sources when the organization moves to a new locality.

a. Individual baggage in theaters of operations must be controlled. The types and amounts of individual baggage to accompany personnel to a theater of operations are held to a minimum. In general, only those items necessary to preclude improper appearance and hardship during the journey to and immediately after arrival at an oversea destination are taken. All other authorized items are issued

at the destination by the appropriate supply agency.

b. Provision must be made in the theater for the receipt and storage of baggage which cannot be carried by individuals and for the collection and storage of baggage that becomes lost. Operation of baggage storage depots is a responsibility of the quartermaster service. All baggage left for storage is examined and Government property removed and placed in issue channels. Personal property is censured so that baggage is ready for shipment to the zone of interior on the return of the individual, or as effects, if applicable.

275. PROPERTY ACCOUNTABILITY. Property accountability is established in theaters of operations in accordance with general instructions prescribed by the Department of the Army, specific memoranda, and letters of instructions.

a. Audit of property accounts is undertaken only when authorized or directed by the theater commander. Personnel of the Finance Department may be assigned to the duty of auditing property accounts upon orders of the theater army commander. Theater commanders require the audit of property accounts in time of war only in cases where such action is deemed imperative for the proper protection of the interests of the Government.

b. Based on Department of the Army instructions, the theater army commander establishes a system for the accounting of supplies within the theater. This system may provide for maintenance of records of stocks on hand and may insure prompt delivery

of supplies, protection of supplies against loss or theft, and ease of inventory insofar as practicable.

c. All commanders are charged with insuring that neither men nor organizations of their commands waste or misuse supplies, materials, and equipment furnished to them or accumulate an unauthorized surplus thereof. Organizations or individuals demanding much in excess of the average amounts required by other like units under similar conditions are investigated and appropriate action taken.

APPENDIX I

REFERENCES

- FM 31-5 Landing Operations on Hostile Shores.
- FM 100-5 Operations.
- FM 100-15 Larger Units.
- FM 101-5 Staff and Combat Orders.
- FM 101-10 Organizational, Technical, and Logistical Data.
- TM 20-205 Dictionary of United States Army Terms.

APPENDIX II

DEFINITIONS

1. ADMINISTRATION. Administration is the management and operation of all military matters not included in tactics and strategy.

2. AIR FORCE SUPPLIES. Air Force supplies are those supplies which are procured and issued by the Air Force, and those procured by the technical services for which the Air Force has sole responsibility for distribution, bulk storage, and issue.

3. AUTHORIZED ALLOWANCES OF EQUIPMENT. Authorized allowances of equipment are the quantity of items authorized for issue to a unit or organization in accordance with tables of allowances (T/A), tables of basic allowances (T/BA), tables of organization and equipment (T/O&E), or special authorizations including approved projects.

4. AUTOMATIC SUPPLY. Automatic supply is a system of supply by which the needs of a command are estimated on the basis of arbitrary or experience-usage factors, and shipment or issue thereof is made automatically without requisition by the command concerned.

5. BALANCED STOCKS. Balanced stocks are the accumulation of supplies of all classes or groups in quantities determined to be necessary to meet requirements for a fixed period of time.

6. BASIC LOAD. Basic load is the amount of ammunition expressed in rounds by type which can be carried by a unit in its organic transportation, provided by tables of organization and equipment.

7. CIVIL AFFAIRS-MILITARY GOVERNMENT. a.

General. Civil affairs-military government encompasses all powers exercised and responsibilities assumed by the military commander in an occupied or liberated area with respect to the lands, properties, and inhabitants thereof, whether such administration be in enemy, allied, or domestic territory. The type of occupation is determined by the highest policy-making authority. Normally, the type of occupation is dependent upon the degree of control exercised by the responsible military commander.

b. Military government. Military government is the supreme authority exercised by an armed occupying force over the lands, properties, and inhabitants of an enemy, allied, or domestic territory. Military government is exercised when an armed force has occupied such territory, whether by force or agreement, and has substituted its authority for that of the sovereign or previous government. The right of control passes to the occupying force, limited only by the rules of international law and established customs of war.

c. Civil affairs. Civil affairs is the assumption by the responsible commander of an armed occupying force of a degree of authority less than the supreme authority assumed under military government over enemy, allied, or domestic territory. The indige-

nous governments would be recognized by treaty, agreement, or otherwise as having certain authority independent of the military commander.

d. Occupied territory. Occupied territory means any area in which civil affairs-military government is exercised by an armed occupying force. It does not include territory in which an armed force is located but has not assumed authority.

e. Liberated territory. Liberated territory is allied or domestic territory which has been recovered by action of an armed occupying force from enemy occupation or from rebels treated as belligerents.

8. CLASSES OF SUPPLY. **a.** Class I supplies consist of those articles which are consumed by personnel or animals at an approximately uniform rate irrespective of local changes in combat or terrain conditions. This uniform rate of consumption permits supply agencies to place balanced stocks in depots and supply points where they may be obtained by using units on the basis of a strength report rather than itemized requisitions. Examples: rations and forage.

b. Class II supplies consist of supplies and equipment for which allowances are established by tables of organization and equipment, tables of basic allowances, tables of allowances, equipment modification lists, or other lists or letters which prescribe specific allowances for a unit or for an individual. Examples: clothing, weapons, mechanics tools, spare parts, and supplies for authorized equipment.

c. Class IIA supplies consist of Air Force supplies

and equipment for which allowances are established by tables of organization and equipment, tables of basic allowances, and tables of allowances, or publications to which these tables refer, and which are not included in classes II, IV, or IVA. Examples: aircraft, flying equipment (that is, flying jackets, flak suits and helmets, trousers, and boots).

d. Class III supplies consist of fuels and lubricants for all purposes except for operating aircraft or for use in weapons such as flame throwers. Examples: petroleum products such as gasoline, kerosene, Diesel oil, fuel oil, lubricating oil, and greases; and solid fuels such as coal, coke, and wood.

e. Class IIIA supplies consist of aviation fuels and lubricants.

f. Class IV supplies consist of supplies and equipment, except Air Force supplies for which allowances are not prescribed or which are not otherwise classified. Examples: construction and fortification materials. Classes I, II, III, and V items may be subject to class IV issue when issued in excess of prescribed allowances or for purposes not regularly authorized.

g. Class IVA supplies consist of Air Force supplies and equipment for which allowances are not prescribed or which are not otherwise classified.

h. Class V supplies consist of ammunition, explosives, and chemical agents (except Air Force class VA supplies). Examples: small arms and artillery ammunition; grenades and mines; explosives such as dynamite, TNT blocks, fuses, blasting caps, and

detonators; pyrotechnics; and chemical agents (including flame thrower fuel).

i. Class VA supplies consist of ammunition used exclusively by the Air Force. Examples: bombs, air dropped mines, and aircraft rockets.

9. COMMON SUPPLIES. Common supplies are those items of supply used by two or more of the armed forces (Army, Navy, Air Force).

10. CONSUMPTION RATE. Consumption rate is the average quantity of an item expended or consumed during a given time interval, expressed in quantities per applicable basis. Typical bases of consumption rates are rounds per weapon per day, pounds per man per day, and quantity per 1,000 men per month. The term "maintenance rate" is used in similar manner in ammunition planning.

11. CREDITS. Credits are an allocation of a definite quantity of supplies at a designated supply installation. These supplies thereafter are distributed by the commander to whom allocated. Sometimes a credit may be issued with the provision that it expires at a specified time. Unless otherwise specifically stated, credits become effective on the date allocated. Credits must be based on stocks actually on hand in the designated supply installation from which they are to be drawn. Establishment of credits does not preclude the use of some form of requisition. Arrangements by which commitments are made against supplies that are not on hand are not to be confused with credits.

12. DAY OF SUPPLY. A day of supply is the quantity of supplies estimated to be required for one day under the conditions of the operation and for the force stated. The term is used—

a. In prescribing over-all Department of the Army and theater levels.

b. In prescribing post, camp, and station, depot, base, force, sector, or other stock levels for subordinate units.

c. In defining the average daily requirement of ammunition per weapon, considering all the weapons of the various types in a theater in the hands of troops, or the number used by the Department of the Army for its computation.

d. In defining the average daily expenditure of other items per man in a theater or for a campaign.

13. DEPOT. A depot is an organized locality for the performance of one or more of the following functions: procurement, manufacture, assembly, reception, classification, storage, issue, maintenance, repair, and salvage of supplies; or for the reception, classification, and forwarding of personnel replacements. Branch depots pertain to a single supply service, and general depots pertain to two or more supply arms or services.

14. DISTRIBUTING POINT. A distributing point is a point at which supplies, obtained from the supply point by a division or other unit, are broken down for distribution to subordinate units. Distributing points usually carry no stocks; items drawn are issued completely as soon as possible.

15. DUES-IN. Dues-in are the quantities of supplies which have been requisitioned or placed on order, but which have not been received, and for which no notice of cancelation has been received.

16. DUMP. A dump is a supply installation, usually operated by a division or smaller unit, at which a small emergency stock of selected items is maintained for issue.

17. EXPENDITURE REPORT. An expenditure report is a periodic report on items or classes of supply showing amounts expended and amounts authorized to be on hand. These reports may be used as a basis for replenishment.

18. HIGHWAY TRAFFIC REGULATION. Highway traffic regulation is the planning, routing, scheduling, and directing the actual use of highways by vehicles, personnel afoot (including troops, refugees, and other civilians) and animals, to utilize highway transportation facilities and equipment most effectively, in accordance with assigned tasks.

19. HOLDING AND RECONSIGNMENT POINT. A holding and reconsignment point is a rail center and storage point of considerable capacity to which cars may be sent and at which they may be held until such time as they may be moved to their destination. If it is anticipated that the cars are to be held for a protracted period before being called forward to destination, the contents may be unloaded.

20. INITIAL ISSUE OF EQUIPMENT. An initial issue of equipment is the provision of equipment approved for issue and not previously supplied to troops. Such initial issues include issues to new inductees, issues to newly activated units, issues of newly standardized items, issues arising from increases in allowances due to changes in tables of organization and equipment, and other tables of allowances, items approved for issue in excess of the quantity authorized in approved tables, items approved for issue to units for which there are no approved tables, and items not provided for in approved tables.

21. LEVELS OF SUPPLY. a. Minimum level of supply is the quantity of supplies, normally expressed in days of supply, required to sustain operations during an interruption of supply lines.

b. Operating range of supply is the quantity of supplies, normally expressed in days of supply, required to sustain operations during the interval between successive resupply shipments.

c. Maximum level of supply is the maximum quantity of supplies, normally expressed in days of supply, authorized to be on hand. It is the sum of the minimum level and the operating range.

22. LINES OF COMMUNICATIONS. Lines of communications are the network of railways, waterways, airways, highways, and pipe lines available for transportation.

23. LOGISTICS. Logistics is that branch of administration which embraces the management and pro-

vision of supply, evacuation and hospitalization, transportation, and service. It envisages getting the right people and the appropriate supplies to the right place at the right time and in the proper condition.

24. MAINTENANCE AREA. A maintenance area is a general locality in which are grouped a number of logistical establishments for the support of a given force.

25. MOUNTING AREA. A mounting area is an area which includes subareas known as concentration, assembly, and embarkation areas. Here troops are staged for final assembly prior to embarkation and they and their equipment are inspected, and the latter is given final processing, including waterproofing.

26. OPERATIONAL CONTROL. Operational control is limited authority exercised by an individual over a part of the activities of designated units or organizations over which he does not exercise full command.

27. OPERATIONAL MILE. An operational mile is that amount of gasoline, oil, and lubricants required to move all transportation in a unit 1 mile. This term normally is used when expressing levels of supply of class III. (Example: 3 days, based on 50 operational miles per day.)

28. OPERATIONS. Operations are the activities of an organization which pertain directly to the execution of the mission of the organization. These activities may be classified further as follows:

a. Combat operations are the activities of an or-

ganization which pertain directly to engaging the enemy.

b. Service operations are the activities of an organization which pertain directly to furnishing administrative support.

29. PHASING. Phasing is the preparation of a time schedule for the performance of an operation or specific parts of an operation. It also may be a statement of the periods during which, or dates on which, performance of parts of an operation is directed or expected to occur. As used in supply, the term usually connotes the delivery of balanced increments of all classes of supply to secure a uniform build-up paralleling the increase in troop strength.

30. PRESCRIBED LOAD. The prescribed load of a unit is a specified quantity of each type of supplies to be carried by that unit, both by its personnel and in its transportation. The establishment of this load is a command decision and is dependent upon the tactical situation as well as upon the capacity of unit transportation. The prescribed load of vehicle(s) may be unloaded at any time in order that the vehicle(s) may be used for other purposes.

31. PRIORITIES. Priorities are definite rulings which establish precedence. Examples of their use are in the issue of supplies, movement of personnel or supplies, and maintenance of equipment.

32. RAILHEAD. A railhead (truckhead, navigation head, airhead) is the supply point at which supplies

are unloaded, and from which they are distributed or forwarded, usually by another means or echelon of transportation.

33. RECOVERY. Recovery is the location and return to a collecting point or a maintenance or supply establishment of damaged matériel than can be repaired and used again, or from which usable matériel may be reclaimed. Battlefield recovery is the removal from the battlefield of disabled or abandoned matériel pertaining to both enemy and friendly troops and its movement to a recovery or collecting point or to a maintenance or supply establishment.

34. REPLACEMENT. A replacement is a trained individual available for assignment to replace an individual lost to a unit or an organization.

35. REPLACEMENT FACTOR. A replacement factor is a number expressed as a decimal which, when multiplied by the total projected quantity of an item in use, gives the quantity of that item required to be replaced during a given period of time.

36. REPLACEMENT ISSUE. A replacement issue of equipment is that portion of the issues made to troops which replaces equipment previously supplied in order that standards of efficiency prescribed by the Department of the Army are maintained. Such issues include replacement of unserviceable equipment, replacement of losses due to wearing out beyond economical repair, abandonment, destruction,

enemy action, pilferage, and all other causes except intransit losses attributable to ship sinkings, and losses of certain items of clothing incident to the separation of personnel from the service. Replacement differs from replenishment in that replacement pertains to the completion of equipment authorized a using unit while replenishment refers to the reconstitution of supply levels.

37. REPLENISHMENT SUPPLIES. Replenishment supplies are those required periodically to reconstitute stocks which have been depleted by issue or loss during a period.

38. REQUIREMENTS. Requirements are a statement of the supplies, personnel, or services needed for the equipment, maintenance, or operations of a force for a particular period of time or to complete a specific project.

39. SERVICE. Service is a term which in one sense includes all noncombat activities of a unit or command, while in another it denotes a branch of the Army or an organization therein, the primary mission of which is to render noncombat support to other organizations.

a. Technical services is a term used to group the services which render the principal logistical support: chemical, engineer, medical, ordnance, quartermaster, signal, and transportation.

b. Administrative services is a term used to group all the nontechnical services.

c. Air services are those services (both technical

and administrative) within the Air Force which render administrative support primarily to Air Force units and command.

40. SERVICE UNIT. A unit rendering service for the theater as a whole to insure the continuity of administrative and tactical operations.

41. SERVICE SUPPORT UNIT. A unit rendering a designated service for a specific using unit.

42. SUPPLY POINT. Supply point is a general term used to describe any point where supplies are issued; for example, a depot, railhead, truckhead, navigation head, airhead, pipehead, distributing point, or maintenance organization.

43. SUPPLY RESERVES. Supply reserves are supplies accumulated in excess of immediate needs for the purpose of insuring continuity of adequate supply. Examples of supply reserves are as follows:

a. Battle reserves are supplies accumulated by army, detached corps, or detached division in the vicinity of the battlefield in addition to unit and individual reserves.

b. Individual reserves are those carried on the soldier, animal, or vehicle for his or its individual use in emergency.

c. Unit reserves are the prescribed loads, that is, the quantity of supplies carried as a reserve by a unit.

d. Operational reserves are the supplies held by

an army or independent task force to insure continuity of distribution and issue to its subordinate elements.

e. Theater reserves are the supplies represented by the minimum level prescribed for the theater.

44. TRAFFIC CONTROL POST (TRAFFIC POST). A traffic control post is a control and information center operated by military police at principal cross-roads, road junctions, or other points on the road net to provide spot direction to traffic in order to insure minimum interruption of the traffic flow, and to enforce traffic regulations. The post normally gathers and furnishes information concerning installations, headquarters, and road conditions, and reports to the provost marshal or other appropriate authority on road conditions and road discipline. A traffic post may be established for a limited time to perform spot direction, or the post may operate for extended periods maintaining contact with headquarters and adjacent posts by telephone, radio, or messenger in order to provide maximum assistance to passing traffic.

45. TRAFFIC REGULATION POINT. A traffic regulation point is an advantageously and conveniently located point on the transportation network where Transportation Corps traffic regulation unit personnel are stationed to execute the traffic plan, receive and transmit information, and furnish reports of movement to higher authority. Convoys, march units,

and other road movements may be required to obtain clearances from these points before entering the roadnet. The traffic regulation point also may act as an agency for the traffic headquarters in arranging transportation for units in its area, or obtaining return loads for empty convoys.

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